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ABSTRACT

This volume contains 8 papers presented at the January 2001 United Nations Policy Forum. The first paper provides an overview of major changes in the higher education sector in the selected countries consequent upon the economic crisis in the region. The subsequent papers analyze the crisis and its impact on higher education in individual countries. Following an introduction by the editor, the eight papers are: (1) "Impact of the Economic Crisis on Higher Education in East Asia: An Overview" (N. V. Varghese); (2) "Impact of the Economic Crisis on Higher Education in Indonesia" (Agung Purwadi); (3) "Impact of the Economic Crisis on Higher Education in Korea" (Hyunsook Yu); (4) "Impact of the Economic Crisis on Higher Education in Malaysia" (Arif Hassan); (5) "Impact of the Economic Crisis on Higher Education: The Case of Universiti Utara, Malaysia" (Dato Dr. Mohd Saileh bin); (6) "Note on the Economic Crisis and Higher Education in the Philippines" (Mona Dumlao-Valisno); (7) "Impact of the Economic Crisis on Higher Education in Singapore" (Govindar Shantakuma; Pundarik Mukhopadhaya); and (8) "Impact of the Economic Crisis on Higher Education in Thailand" (N. V. Varghese). Lists of programs and participants are appended. (BT)

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IIEP observation programme

Policy Forum No. 12

Impact of the economic crisis on higher education in East Asia:

Country experiences

Edited by N.V. Varghese

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UNESCO
International Institute for Educational Planning

Forum on Education No. 12

Impact of the economic crisis on higher education in East Asia: Country experiences

Selected papers from the Policy Forum organized jointly with RIHED, Bangkok and Ministry of Education, Malaysia Selangor, 29-31 January 2001

Edited by N. V. Varghese

UNESCO
International Institute for Educational Planning

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PREFACE

Growth with equity was the hallmark of the East Asian model of development. Benefits of growth in national income were more equally shared in this region than anywhere else worldwide, and high-performing economies experienced increased production, expansion of employment opportunities and enhanced household income. Consequently, the number of people below the poverty line declined drastically in all of these countries.

Education played an important role in promoting growth and improving equity in the distribution of wealth. Manufacturing-based and export-led growth strategy of these economies thrived with an abundant supply of skilled manpower. In fact, economies in this region became internationally competitive due to the educated labour force. Since education paid rich dividends, both public authorities and households were willing to invest in education. The willingness of the households to educate their children, accompanied by the commitment of the state both in terms of policy measures and in terms of funding, led to a faster progress of education than that experienced in other parts of the world.

Both universal adult literacy and primary enrolment have already been achieved by these countries, some of them being at par with developed countries in terms of enrolment at secondary and tertiary levels of education. Recent studies have indicated that a major share of improved growth could be attributed to universalization of education within these societies. While the possibility of expansion in enrolment was exhausted at the primary level due to the decline in childbirth, expansion at secondary and tertiary levels continued. In fact the fastest growth rate in education was experienced at the higher education level in the 1990s.

In short, its near and distant neighbours envied the performance of East Asian economies. This model became very popular, not only due to sustained high growth rates, but also due to the absence of any shocks and crises, which economies of the developed world occasionally face. However, the 1997 crisis shattered the image of the crisis-free growth model of East Asia. The crisis, which started as one of currency in Thailand in July 1997, soon spread in the region as an economic crisis and it continued for some time after that.

Studies on economic crisis and education are not rare in general and particularly within the Institute. One of the most celebrated contributions to this theme was made in the late 1960s through the Institute's publication *World Economic Crisis and Education*. In the 1980s the Institute published other studies on the same theme. All focused on the failure of the public sector to avoid economic and educational crises. However, this is not the case in East Asia. The East Asian economic crisis is neither the product of the profligacy of the public sector nor inefficiency in its operation. It is the product of over-investment by over-ambitious private sectors.

How does a crisis in East Asian countries affect their commitment to education? This was the crucial question that was addressed by the IIEP study. Since the countries in this region have already achieved universal primary education and generalized secondary education, the IIEP study focused more on what happens to higher education in East Asia during periods of crisis. The East Asian crisis resulted in a loss of jobs and a decline in household income. The most severely affected groups, however, are middle-income groups who are traditional clientele for higher education. The expectation was that a decline in enrolment may be due to reduced paying capacity of households to support education, even when their commitment to children and their education continues to be unquestionable. The surprising finding of the study was that this expectation was belied and enrolments did increase in many countries, for various reasons. How did public policies and the public sector respond to the crisis? What are its short-term and long-term effects? How may we improve in the future the way in which we face a crisis situation of this variety? The IIEP carried out case studies in five of the eight high-performing economies of Asia in order to answer some of these questions.

We appreciate the efforts made by our colleague, Mr N.V. Varghese, who directed the regional research, to organize a Policy Forum with a view to sharing the findings with researchers and policy-makers of the region. The Policy Forum was organized jointly with SEAMEO RIHED, Bangkok, and the Department of Higher Education, Ministry of Education, Malaysia. We are grateful to all those who contributed towards the success of the forum and to the spreading of its message to policy-makers both in that region and abroad.

Gudmund Hernes
Director, IIEP
July, 2001

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AGR	Average Growth Rate
ASEAN	Association of South-East Nations
BK	Brain Korean
BOT	Build-Operate-Transfer
CHED	Commission on Higher Education
cif	cost including freight
CPF	Contributory Provident Fund
CPI	Consumer Price Index
COE	Centres of Excellence
COD	Centres of Development
EDB	Economic Development Board
FDI	Foreign Direct Investment
fob	freight on board
GDP	Gross Domestic Product
GECD	Gombak Educational and Cultural Development
GER	Gross Expenditure for Research
GLCs	Government-linked Companies
GNI	Gross National Income
GNP	Gross National Product
HEI	Higher Education Institution
HPAEs	High Performing Asian Economies
HPEAEs	High Performing East Asian Economies
IIU	International Islamic University
IIUM	International Islamic University Malaysia
ILO	International Labour Office
IMF	International Monetary Fund
IND	Indonesia
IT	Industrial Training
ITE	Institute of Technical Education
ITM	Institute Technology Mara
KDI	Korean Development Institute
KLSE	Kuala Lumpur Stock Exchange

KLSECI	Kuala Lumpur Stock Exchange Composite Index
LAN	National Accreditation Board
LF	Labour Force
MNC	Multinational Corporation
MOE KEDI	Ministry of Education - Korean Educational Development Institute
MOEF	Ministry of Education
MSC	Multimedia Super-Corridor
NDP	National Development Policy
NEAC	National Economic Action Council
NEP	National Education Policy
NERP	National Economic Recovery Plan
NGOs	Non-Governmental Organizations
NHEF	National Higher Education Fund
NIE	National Institute of Education
NTU	Nanyang Technological University
NUS	National University of Singapore
NWC	National Wages Council
O&M	Other and Miscellaneous
OECD	Organisation for Economic Co-operation and Development
OPP	Outline Perspective Plan
PESS	Philippine Education Sector Study
PG	Postgraduate
PG (Cr)	Postgraduate (Coursework)
PO GNP	*No word*
PRC	Professional Regulation Commission
R&D	Research and Development
RM	Ringgit (Malaysia)
Rp.	Rupiah
SEAMEO	Southeast Asian Ministers of Education Organization
SIM	Singapore Institute of Management
SMU	Singapore Management University
SSN	Social Safety Net
SSN PCMT	Social Safety Nets: Progress and Future Action Plans
STS	Secondary Technical Schools
STHRF	Scientific and Technical Human Resource Fund
SVS	Secondary Vocational Schools

TEP	Technical Educational Product
TESDA	Technical Education and Skills Development Authority
TFP	Total Factor Productivity
TNB	Tenaga Nasional Berhad
TMB	Telkom Malaysi Berhad
UNDP	United Nations Development Programme
UG	Undergraduate
UNICEF	United Nations Children's Fund
UNITAR	(first virtual university of Malaysia)

INTRODUCTION

by N.V. Varghese*

The context

East Asian countries have experienced high growth rates in recent decades. These high rates were accompanied by reduction of poverty levels and improvement in equity in the distribution of income. More importantly, unlike economies of the developed world, these economies were relatively free from outside shocks and economic crisis. The growth in the region was led by the export of manufacturing goods mainly to Japan, the USA and Europe.

Certain features of the East Asian development model are worth noting. Firstly, the rapid growth of the economy was accompanied by high employment elasticity of output growth. This led to a fast expansion of formal-sector employment and increased household incomes. Second, government expenditure, as a share of GDP, was low and hence the state could play only a limited role in the redistribution of income. Poverty reduction and improved income equality attained in these countries were more the result of an overall improvement of household incomes, rather than any direct state intervention. Third, the income elasticity of demand for education was positive and this was reflected especially in the increasing demand for post-compulsory levels of education. In other words, these economies, during this period of growth, were characterized by expansion in formal-sector employment, improved household incomes and increased demand for post-compulsory levels of education.

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* Staff member, IIEP.

The role of the state was more in terms of regulating economic activities to facilitate a smooth operation of the market than in terms of financing development activities. Consequently the state was not a dominant partner in total expenditure of the economy. In fact, the government expenditure accounted for only around 20 per cent of the GDP, a share that is lower than the corresponding one in many industrialized countries. It needs to be noted that even when the public expenditure ratio was low, these economies maintained a high social allocation ratio. Nearly 20 per cent of the government expenditure was allocated to social sectors.

The low public expenditure ratio was not sufficient to develop a widespread public-funded social security system. The growth-promoting private sectors considered it neither their responsibility nor a priority area for investment. Unfortunately, the industrialization process in these countries had already destroyed the family network and other social security systems usually found in traditional societies. In other words, most of the economies had moved out of the traditional institutions of social security but had not replaced them with a public social security system commonly found in industrialized countries.

The IIEP regional project

The recent economic crisis led to an increase in unemployment, and a sharp decline in household incomes. Some recent surveys indicate that the impact of the crisis was felt more among those who were employed in formal sectors of the economy than among those employed in urban informal sectors or the traditional rural agricultural sector. For example, by May 1998, unemployment had doubled, reaching a staggering figure of 1.5 million in Korea – 6 to 12 million Indonesians lost their jobs in 1998. Similar trends can be observed in other countries such as Thailand, Malaysia and, to a limited extent, Singapore. In the absence of a well-developed social security system, for the reasons mentioned above, the unemployed became very vulnerable to the crisis. Given the reduced role of the state, it could not provide any sustained social safety net for the newly unemployed. There were instances where the poor were forced to sell assets for their survival and those better off were squeezing their expenditure on education.

Economic crisis in the past in many countries has, in general, led to a reduced share of public expenditure and allocations to social sectors. Public expenditure as a share of GDP and social expenditure as a share of public expenditure declined in many developing countries during periods of economic crisis. This pattern stems essentially from the policy measures taken in the belief that inefficiency and non-performance of the public sector lay at the root of the crisis. The recent economic crisis in East Asia is markedly different from previous ones, since it is not the public sector that is at the root of the problem. It is the unrestricted flow of private capital to the region and its withdrawal that created and accentuated the crisis.

The impact of the crisis seems to be more at post-compulsory levels of education. It is the middle-income group that provides the traditional clientele for higher education and it is the most adversely affected group as a result of the decline in formal-sector employment during the crisis period.

The impact of the crisis on higher education will depend on household response to the demand for education, public policy response to maintain priority to education and to provide increased funding support to the sector. In general, a decline in household incomes is associated with a decline in the income elasticity of demand for education. This is particularly true of households that do not have enough savings to withstand the adverse impact of the crisis. A crisis results in unemployment and leads to a prolonged waiting period for youth in the labour market. In other words, the opportunity cost of seeking higher education declines during crisis periods.

The change in demand for education will depend upon public policy and funding support extended by the government during the period of crisis. Budget cuts, staff reduction, curb on facilities and equipment and cost-saving measures of managing institutions of higher education are some of the commonly seen responses during periods of economic crisis. The IIEP launched a regional project in the year 2000 to analyze the extent and nature of changes affecting the education sector during the period of economic crisis in these countries.

The project carried out case studies in some of the high-performing Asian economies. Five countries from regions varying from the least to the most affected, on the basis of the decline in export earnings and the rate of growth of GDP in 1998, were identified. These countries are Singapore, Malaysia, Korea, Thailand and Indonesia in the order of the least to the most affected countries. Case studies were conducted in these countries. The case studies involved analyzing macro-level policy changes and institutional-level responses during the period of higher education.

The Policy Forum

The Institute, in collaboration with the SEAMEO RIHED, Bangkok, and Department of Higher Education, Ministry of Education, Malaysia, organized a Policy Forum from 29 to 31 January 2001. The Policy Forum brought together researchers including authors of the case studies and policy-makers from the countries of the region (list of participants is included in the annexes). The IIEP prepared a theme paper for the seminar based on the studies initiated by the Institute and each of the authors prepared a paper on their country experience. These papers provided the major input for deliberations in the Policy Forum.

The major effort in the Policy Forum was to develop a regional perspective to resolve issues arising out of such crises in the past. The forum brought together 35 professionals and policy-makers from the region. The Policy Forum was inaugurated by Tan Sri Dr Johari Mat, Secretary General, Ministry of Education, Malaysia. Chairpersons and Directors of IIEP and RIHED participated in the Policy Forum. The technical sessions of the Policy Forum began with the presentation of the theme paper by the IIEP. More focused presentations and discussions on each country followed and the sessions ended with working group meetings to discuss policy implications and follow-up activities (a detailed programme schedule is included in the annexes).

Trends in the Policy Forum discussions

The deliberations in the Policy Forum revealed the responses adopted by various countries at both the public policy and institutional levels. In all countries of the region there is a strong commitment to education by both state and households. Therefore, every effort was made to ensure that budgets to education were maintained. However, all countries did not succeed in their efforts. Consequently, there were budget cuts. Budget cuts were more from investment budgets than they were from the recurrent budget. As a result many new activities could not be undertaken and new activities initiated could not be continued.

One phenomenon reported was the dropping out of students who were continuing their studies in the universities. The public policy responded by providing student support systems, which included student grants, loan scholarships and various subsidies. This helped arrest drop-out from the system. In some cases these measures enhanced the motivation and incentive to enrol and continue education in the universities.

Some of the countries in the region have a good quota of private universities. Private universities were severely and adversely affected by the crisis. With the decline in household income, it was difficult for many households to send their children to full-cost, fee-levying private institutions. Therefore many families withdrew their children and placed them in public institutions. It should be noted that student support systems introduced by the government helped arrest this tendency.

Some of the private universities became bankrupt and public authorities came up with proposals to bail out these universities. In other words, public policy during the crisis period did not focus on the operation of public universities alone, but policy measures included protection of the private sector in education, even if the institutions had previously been self-financing or for-profit.

Some of the countries traditionally encouraged students to study abroad. The proportion of students studying abroad constitutes around one fifth of the total enrolment. All countries under study indicated a large-scale reduction in fellowships to study abroad. This has contributed to discontinuation of studies abroad and return of the students to their own countries. Governments responded by introducing credit transfer systems in order to prevent these students from losing the academic year that they had spent abroad. Some of the countries further supported these students by providing fellowships. The return of native students increased demand for higher education in the host countries and hence enrolment increased during the crisis period.

Some of the countries changed the regulations. Universities became more autonomous either financially or otherwise. Private sectors were encouraged. In some countries this led to starting new private universities with franchising and twinning arrangements with foreign universities. This was more in response to the insatiable demand for foreign degrees and the inability of the households and governments to support social demand for foreign education.

The crisis period also experienced an inflow of foreign students to study in the crisis-affected countries. The crisis countries became cheaper after the loss in value of domestic currencies against the dollar and students therefore were attracted to these countries. An additional advantage for them was the introduction of franchising arrangements by these universities which enabled them to obtain a foreign degree at a cheaper price.

At the institutional level, budgets were cut in many universities. Some of them, armed by their autonomy, initiated steps to generate their own income. Others looked to the government for support. In many cases, extended support to students in terms of fellowships and loan scholarships permitted them to continue their studies without interruption.

The forum also discussed challenges posed by methodological issues in analysis impact of the crisis on higher education. Traditional indicators such as changes in student enrolment or decline in funding support are not reliable indicators to capture the intensity of the crisis. Higher education enrolment in some of the East Asian countries increased as a result of the crisis, perhaps due to the fall in the value of domestic currency, compelling students to cancel their plans to study abroad or to accept student support systems which provide incentives to stay in the university. Similarly, many universities have started mobilizing resources on their own and hence the change in public funding may also not be a good indicator. In many instances certain subject areas are more affected than others during periods of crisis. This is a domain that requires more research and studies.

Two important conclusions emerged from the workshop. First, all participating countries recognize that safety-net systems operating in their own countries are not sufficient to meet the eventualities of such crisis situations. Hence, there was a strong demand for public-funded safety systems to provide sustainable provisions for those who are affected. Second, the Policy Forum underlined the need to develop a regional perspective, even to evolve national policies to combat the crisis situation. In the absence of such a regional perspective, solutions to the problems in one country could create difficulties for the neighbouring country that is also affected by the crisis.

The Policy Forum recommended that periodic meetings involving policy-makers and researchers of the region would be useful to evolve better strategies to meet the challenges posed by the crisis situation. A second recommendation was to establish mechanisms by which a research base could be created to undertake research in higher education within the region. The participants particularly stressed the contribution of the Policy Forum to the capacity building of research. The forum also identified university governance as a potential topic for follow-up research in the region.

About this volume

The present volume is based on the selected papers presented at the Policy Forum. The first paper provides an overview of major changes in the higher education sector in the selected countries consequent upon the economic crisis in the region. The subsequent papers analyze the crisis and its impact on higher education in individual countries.

I. IMPACT OF THE ECONOMIC CRISIS ON HIGHER EDUCATION IN EAST ASIA: AN OVERVIEW

by N.V. Varghese

1. Growth and prosperity in East Asia

The economies of the East Asian region have experienced consistently high growth rates in recent decades. The High Performing Economies of Asia, since the 1960s, have grown twice as quickly as in the rest of East Asia, three times that of South Asia and five times that of sub-Saharan Africa (World Bank, 1993). Several factors have contributed to sustaining high growth rates in East Asia. Sound development policy, good macroeconomic management, good public administration, continued political stability, encouragement of private investment and better educated labour force are all important elements that generate and sustain high economic growth with equity. Private investments were very high and operated within the framework provided by public policy. State control and market operations were complimentary to each other. State control was destined to facilitate rather than to restrict smooth market operations. After having analyzed contributing factors to high growth rates, two crucial elements emerge as principle engines of growth: private domestic investment and rapidly growing human capital (World Bank, 1993).

Education played an important role in shaping the pattern of development in these countries (World Bank, 1993; 2000; Tilak, 2000). Basic education and professional training fostered rapid growth in the region by providing an adequate skilled workforce to the growing export sector. Higher education played an important role in policy analysis and formulation, in managing the economy and providing an efficient public administration. A period of continued economic growth increased the demand for a more educated labour force. The growth was export-based and the exports were manufacturing-based The skill intensity of the exports (Wood, 1994) was high and both regional and international competition were severe. Solely an educated labour force could maintain a competitive advantage of exports. Therefore, increasing demand for the educated labour force was part of the development process in these countries.

Public policies helped achieve the target of providing an educated labour force. The state rendered education compulsory at the elementary level and public authorities were responsible for the funding. The share of expenditure on education to GNP was not very high in many countries. Even a constant share, however, during periods of expanding economic activities and increasing income, implies a higher level of availability of resources to education. The decline in growth rates in population further improved resource availability to the education sector, even when the share remained the same. More importantly, a larger share of the educational budgets was devoted to school education. Tertiary education was mostly left to the private sector. In other words, the pattern of educational development in the region is characterized by the state provision of school education, especially at the compulsory levels, and private provision of higher education (Varghese, 2001).

The 'happy state' – one of economic progress and household prosperity – came to an end suddenly in 1997-98 when the crisis began. This economic crisis has shaken confidence in the infallibility of these economies. It has led to an increase in unemployment and to a sharp decline in household income. Recent surveys indicate that the results of the crisis were felt more extensively among those employed in formal sectors of the economy, rather than among those employed in urban informal sectors or in the traditional rural agricultural sector. Those in banking and manufacturing were severely affected. In the absence of a well-developed social security system, the unemployed became very vulnerable to the crisis. Given the reduced role of the state, it could not provide an immediate and sustained social safety net for the newly unemployed.

The recent economic crisis in East Asia is markedly different from previous ones since it is not the public sector that is at the root of the problem. Private sector and private investment, including foreign direct investments, are believed to be at least partially responsible for the crisis. Many efforts have been made to study and analyze the factors contributing to the crisis, but since the crisis is of very recent origin, the evidences on many counts are inconclusive. Therefore, limited evidence and reliable speculation form the basis for many a policy measure accepted and adopted by the crisis countries. Irrespective of sources of study and speculation, all agree with the fact that the crisis has damaged human development that was central to the development efforts of countries within the region. A closer look at the studies on the crisis indicates that most of them focus either on basic education or, at the most, secondary education. They rarely focus on higher education. The IIEP regional project on ***Economic crisis and higher education in East Asia*** was launched in this context.[1]

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[1] The IIEP launched in 2000 a regional research project in the five countries of Indonesia, Korea, Malaysia, Singapore and Thailand. This paper is based on the case studies carried out under the IIEP regional research project on *Economic crisis and higher education in East Asia*. Hence all country references are from these reports, unless otherwise mentioned. The studies carried out were the following: (i) Achara Amrung, Pornchulee (2000) *Impact of economic crisis on higher education institutions in Thailand*; (ii) Hassan Arif (2000) *Economic crisis and higher education in East Asia: case study of Malaysia*; (iii) Purwadi, Agung (2000) *Economic crisis and higher education in Indonesia*; Mukhopadhaya, Pundarik and Shantakumar, Govindas (2000) *Economic crisis and higher education in Singapore*; and (iv) Hyunsook, Yu (2000) *The economic crisis and higher education: the Korean case*. In addition, the IIEP sponsored case studies of two universities. They are: (i) Nikomgratana and Rujiwetpongstorn (2000) *Case study of staff management in Chiang Mai University; and* (ii) Salleh Bin Hj. Din Mohd (2000) *Staff management in higher education during the period of financial crisis: A case study of Universiti Utara, Malaysia.*

2. The crisis and its magnitude

Crises, by definition, defy prediction. The crisis started in Thailand, in July 1997, when the Thai baht lost roughly 15 per cent of its value against the dollar nearly overnight. This phenomenon then spread to Indonesia, Malaysia, Singapore and later to Korea (Montes, 1999). In the initial stages, even the magnitude of the crisis could not be ascertained. The crisis destabilized the currency and stock markets and was in the process of becoming a global crisis rooted in Asia. All of the different national currencies lost value against the USA dollar. Between 1997 and 1998, the Indonesian rupiah lost (-) 72 per cent, the Thai baht and Korean won (-) 36 per cent, the Malaysian ringgit (-) 31 per cent and the Singapore dollar (-) 11 per cent. This depreciation of their currencies was accompanied by a decline in their stocks.

The crisis "stubbornly refused to respond to a standard package of international rescue measures" (Bezasnson and Griffith-Jones, 1999, p. 1). This was partly due to the fact that many earlier crises emanated from public-sector investment/savings deficits, which led to public-sector budget deficits and borrowings. In East Asia, private-sector borrowing, finance companies and corporations were responsible for the situation (Stiglitz, 1998).

The economies in this region had experienced a dramatic increase of capital inflow during the 1990s, which had in turn led to heavy foreign private investment. The foreign direct investment (FDI) increased from 3 per cent in 1980 to 8 per cent in 1990 and to a further 20 per cent in 1994. A sharp drop in the export growth in 1996-1997, resulting from a fall in dollar prices, triggered a sudden loss of confidence among financially fragile firms and institutions. The export sector was severely affected by: (i) a fall in the price of the dollar, (ii) the recession in the Japanese economy, which accounted for at least 16 per cent of the exports of the countries of the region, and (iii) a slowing of the European market, which accounted for another 14 per cent of the region's exports. Dollar prices, which had consistently increased during the 1990s at a 3 per cent annual ratio, suddenly declined to 5 per cent in 1996-1997, which led to heavy loss in export earnings – even when the amount exported continued to be high (World Bank, 2000).

This lack of demand for exports from the region was one of the most important reasons for the onset of the crisis. Hence, unlike other crises, the East Asian crisis was due to over-investment (foreign private investment) rather than to over-consumption (such as the Mexico crisis in 1994). The explosion of the crisis can be squarely placed on the financial panic of international and domestic investors following the collapse of the Thai baht (World Bank, 2000). The crisis led to capital flight. The inflow of private capital to the region was to the tune of US$70 billion in 1994 and it plummeted to US$ (–) 60 billion in 1998, which, combined with the collapse of the currencies, deflated domestic demand. Indonesia, Korea and Malaysia suffered output losses. The private consumption contracted in 1998 primarily due to the wealth loss from the decline in capital market and property values.

According to the Asia Recovery Report (ADB, 2000) public debt has doubled and external debt as a share of GNP has doubled during the crisis period. Similarly, by May 1998 unemployment had doubled, reaching a staggering figure of 1.5 million in Korea; around 6.12 million Indonesians lost their jobs in 1998. Similar trends can be observed in other countries such as Thailand, Malaysia and, to a limited extent, in Singapore. The unemployment pressure was less felt in some of the countries because the brunt of it was born by the migrant workers from other countries.

The magnitude of the crisis could be assessed on the basis of various factors. The decline in growth rates (*Table 1*) of GDP was substantial. Countries that consistently experienced high growth rates suddenly experienced negative growth rates – starting with Singapore in 1997, and all other countries in 1998. Indonesia and Thailand faced the highest fall in GDP and the Philippines and Singapore faced the least rates of decline in GDP.

Table 1. *GDP growth rates*

Countries	*Growth rate 1996*	*Growth rate 1997*	*Growth rate 1998*	*Growth rate 1999*
Indonesia	8.0	4.5	-13.1	0.2
Korea	6.8	5.0	-5.8	10.7
Malaysia	8.6	7.5	-7.5	5.4
Philippines	5.8	5.2	-0.5	3.2
Thailand	5.5	8.4	-10.0	4.2
Singapore	7.6	-1.3	-0.4	5.4

Source: World Bank (2000).

As discussed in the earlier sections, economies in this region were export promoting in their orientation to development. And exports continued to be a major source of revenue for these economies. The growth rate of export revenues (*Table 2*) became negative, indicating an absolute decline in revenue from this source. The decline in export revenues was due to a combination of factors, namely, decline in demand for exports to Japan and Europe, on the one hand, and fall in the exchange value of the domestic currencies, on the other. Because of the latter factor, even when Korea could maintain a high rate of growth of exports the export revenue declined. All these developments led to untold misery to the people.

Table 2. Growth of export revenues and exchange rates

Countries	Growth rate 1996	Growth rate 1997	Growth rate 1998	Change in exchange rate 1998
Indonesia	10.4	2.4	-4.1	-72.0
Korea	4.0	7.5	-5.0	-36.0
Malaysia	9.6	1.6	-9.3	-31.0
Philippines	15.5	9.1	-15.7	
Thailand	1.5	1.6	-8.9	-36.0
Singapore	5.2	0.2	-17.6	-11.0

Source: World Bank (2000).

The impact of the economic crisis is felt among people through losses in employment and income and through loss of assets. The crisis has led to a large-scale loss of employment especially in the construction and manufacturing sectors (*Table 3*). The crisis had less negative impact on the agricultural sector. By contrast, employment increased in the agricultural and service sectors. Informal-sector employment also increased in Indonesia and Korea (Pernia and Knowles, 1998).

Table 3. Unemployment and loss in employment and real earnings, 1998

Countries	Construction	Manufacturing	Unemployment rate			Loss in real earnings
			1996	1998	2000	
Indonesia	-15.9	-9.8	2.6	5.0	15.0	-27.0
Korea	-21.3	-13.3	2.6	7.6	3.5	-10.0
Malaysia	-13.3	-2.9	2.5	6.7	3.5	-3.0
Philippines	-7.9	-2.5	7.4	13.3	11.0	
Thailand	-34.6	-3.6	1.1	4.4	4.2	-21.0
Singapore		*	3.0	2.3	2.8	

* Job loss in 1988 was 25,000.

Sources: Pernia and Knowles (1998) for unemployment rate. Knowles et al. (1999) for loss of employment; otherwise, *Far Eastern Economic Review* (2001).

Not all groups of people were equally affected by the crisis. The youth and women became more vulnerable. Women lose jobs more frequently than men do. This has happened in Thailand in terms of return of the migrant labour. In the Indonesian domestic labour market the same phenomenon had taken place. In some cases the crisis led to family conflicts and increasing divorce in Jakarta (Pernia and Knowles, 1998). Suicide cases have increased in Korea due to loss of job and income and debt.

The general response by the government to the crisis was to arrest further erosion of income and purchasing capacity of people. An important strategy adopted by the government was employment generation through expanding the public works programme. The Padat Karya programme of Indonesia is an example (Purwadi, 2000). Some countries adopted a strategy of freezing wages so that a greater number of employees could be maintained in employment during the crisis period. In Korea and the Philippines labour unions agreed to a wage freeze in return for job security (Pernia and Knowles, 1998). The only crisis country to offer unemployment allowance is Korea. Other responses included extension of severance pay, enforcement of minimum wage regulations, pensions, provident funds, food subsidies, cash and kind transfers etc.

3. Impact of the crisis on higher education

Higher education is a fairly developed and fast-expanding sector in East Asia. As shown in *Table 4,* GER of some countries, such as Korea, is comparable with the most advanced countries in the world. Higher education is essential in these countries since their economies are export based and the export sector requires skilled labour for its operations. In recent years, the production has become knowledge based and hence the demand for highly qualified professionals has increased. Even when there is a crisis, exports being the sector that makes or breaks these economies, the emphasis on education should continue.

Table 4. **Educational development**

Countries	GER Primary	GER Secondary	GER Tertiary	GNP share to education (%) 1995	Higher education to total educational budgets (%)	Share of government expenditure to education (%)
Indonesia	115	50	11	1.4	24.4	7.8
Korea	95	101	52	7.1	8.0	17.5
Malaysia	92	61	11	6.3	25.5	15.4
Singapore	95	73	34	3.0	34.8	23.2
Thailand	87	55	20	4.1	16.4	20.1
Philippines	116	77	29	3.4	18.0	15.7

Source: UNESCO (1999).

The impact of the crisis on higher education is analyzed at three - household, institutional and macro - levels.

(a) Household response

Households respond to a crisis situation depending upon the income effects and substitution possibilities during the crisis period. Loss of employment will have an immediate income effect (reduction) and it may lead to a reduced quantity of purchases of the same basket of items of consumption or to a substitution of those with items of consumption whose prices have gone down and/or with poor-quality items whose prices are low. The response of the household has shown both an income effect and a substitution effect in East Asia.

Another factor affecting the household behaviour pattern is the employment pattern of other members of the family. If the household is a double-income family, the effect of the crisis may be less than that on a household where there is only one earning member. In general people tend to compensate for the income loss by working overtime. For example, women workers in Indonesia worked for longer hours to compensate for the income loss. If income loss cannot be compensated through one's own efforts, then the poor rely on near and dear ones. Information on Indonesia suggests that the poor rely primarily on their relatives, neighbours, and community members as a safety net to cope with the crisis. There were instances when women were forced to prostitution to supplement family income (Mukherjee, 1999, as quoted in World Bank, 2000).

Some households tend to consume less of everything while incomes are falling; certain households substitute dear items with inferior items (income effect); and others reallocate the family budgets to keep consumption of certain items at the cost of other items. This depends on the priority accorded to the items of consumption or investment by the households. For example, if education is considered an item of priority investment by the household, the household will readjust the budget to protect expenditure on education.

The household response varied in different countries and between households within the same country. Households in Korea reallocated spending to protect consumption of critical items by the households. For example, among poor households, per capita expenditure on food items declined, although share of spending allocated to food increased between 1997 and 1998. The share of spending on food items increased due to the income effect resulting either from an inflationary pressure or from an income loss due to job loss or wage cut. In the case of the poorest groups, protecting food consumption is critical and the households tend to protect it.

Again, households (perhaps non-poor) in Korea and Indonesia readjusted their family budgets by cutting their spending on non-essential items (like recreation, household items etc.) whose purchase and consumption could be delayed. In the case of the poorest households in Indonesia, spending on education declined during the crisis period. But in Korea the income effect on a reduction on household expenditure on education was relatively less even among the poor households. In other words, expenditure on education is more dearly protected by households in Korea than by poor households in Indonesia. This is partly due to the high per capita income enjoyed by the people in Korea, which is at least nine times higher than in Indonesia.

Normal behaviour from households while income declines is that they draw from savings to maintain the same level of consumption. This response is due to the fact that people tend to swiftly shift consumption to a higher level and better-quality items when income rises and they attempt to retain the same consumption when it falls (permanent income hypothesis). In Thailand households used savings to buffer consumption. But this did not happen in Korea. It is said that this behavioural pattern was due to the fact that people were not certain about the duration of the crisis and hence they were unwilling to risk the future, which might be still worse, by drawing on limited savings. Needless to say, purchasing capacity in general is on the decline and hence sale of assets and other savings fetch less during a crisis period.

In countries where the private and public systems provide similar facilities, public provision may be subsidized, while private provision may be full priced. During periods of increasing income people shift from public to private provision, if quality of provision and customer services are better in that sector. A corollary of that is a person shifting from full-priced private systems to subsidized private systems during a crisis period, if the quality of public provisions is not too bad. Such substitutions have taken place in the case of education and health. In Thailand, people increasingly substituted public provision for private provision during the crisis period. Consequently, demand for public education and health services expanded during the crisis period. In Indonesia, people preferred a drop in health expenditure to dependence on public health facilities; the quality of public provision might have declined sharply after the budget cuts during the crisis periods.

With fewer jobs and falling incomes, households need additional current income and have depended on generating this income through permitting children to work. This has happened in Indonesia and Thailand. Many parents shifted children from school to work. This effect tends to be strongest at the secondary and higher levels of education, where the students have already attained maturity in terms of age and education to work. This may explain the dropping out of students from secondary schools and universities in Indonesia and Thailand. The Indonesian Government instituted scholarships targeting final-year university students to prevent drop-out.

A UNICEF study in Thailand indicated that a fall in parental income due to loss in employment has resulted in shifting children of well-to-do families from private educational institutions to public institutions, while children from less well-off families drop out of the education system (Mehrotra, 1998). A similar trend was noticed in the case of the Philippines, where many children have been shifted from private to public schools. Another important behavioural pattern in this country was that during the crisis period fewer children were participating in extra-curricular activities that required extra expenditure.

Another interesting behavioural pattern is the decline in educational expenditure on certain supplementary activities. In Korea, private expenditure on education declined mainly due to a decline in private tutoring. Private tutoring in Korea declined by 24 per cent overall - 39 per cent among poor and 13 per cent among the highest income groups. This is a good example of income effect. Another interesting example of substitution effect, again in Korea, is that parents who could not afford to send all of their children to school withdrew the older children first and delayed the entry of the young children (Pernia and Knowles, 1998). This too has contributed to higher drop-out rates.

In general, the crisis has a negative impact on the household expenditure on health and education, primarily due to reduced incomes. Households tend to continue to invest less in education partly due to the fact that they are more worried about survival than investment. Investments in human capital take a long time to give results, which the households cannot cope with during periods of falling income. High-income families, depending on their paying capacities, retain children in the same schools and colleges or shift them to low-cost private institutions or public universities if places are available. The unfortunate situation is that the impact of the crisis may be in terms of a budget cut which contributes to a decline in the quality of public services.

(b) Impact on public universities

The crisis implies financial stringency for the government and hence it can be expected that allocations to all sectors, including higher education, may be declining during periods of crisis. The budget cuts are clearly visible in the public universities. They were affected either in terms of an absolute decline, or in terms of decline in investment expenditure or in terms of a decline in operating expenditure.

In Indonesia, there was an absolute decline in allocations to higher education by around (–) 26 per cent and this was mainly due to the shift in focus from higher to basic education, which gained a 56 per cent increase in allocations during the crisis period (Purwadi, 2000). In the International Islamic University (IIU) of Malaysia the operating expenditure was cut by 20 per cent. The university also lost money from its stocks (Hassan, 2000). In Chiang Mai University there was a decline of 8 per cent in public allocations in 1998, mostly from the investment budget (Nikhimgratana and Rujiwetpongstorn, 2000). In Singapore (Mukhopadhyaya and Shantakumar, 2000) and Korea (Yu, 2000) too the investment budget declined.

The universities responded by adopting austerity measures such as reducing staff, postponing development programmes, regulating utilities and maintenance, postponing purchase of library books, cancelling travel grants for faculty members to attend international seminars etc. and initiating income-generating activities. In Korea the cut was more on administrative staff; in Thailand retired staff were not replaced; in Indonesia and Thailand there was a freeze on staff recruitment.

The restructuring process initiated in the universities involved restriction on new appointments and a freeze on wages. Budget cuts occurred in the public universities. Downsizing was one of the methods of reacting to the crisis. Staff cuts were implemented more in the administrative sector than in the academic sector of the university. In Chungnam National University the administrative staff was reduced by a total of 78 between 1996 and 1998. The cut in academic staff was less when compared with that in the administrative staff. The Chiang Mai University lost 366 staff members in the year 1999 (63 transferred, 45 retired, and 150 resigned). Highest staff reduction was noticed in Science and Medical faculties. In 1998 the university ordered cancellation of 353 positions of the retiring officials for the fiscal year 1998 and in 1999 the government formulated an early retirement policy (Nikimgratana and Rujiwetpongstorn, 2000).

In Indonesia, the growth of new entrants declined both in the private and public universities. The decline was sharper in 1999 than in 1998, but this could mean that households responded with delay. The hierarchy of the system in Indonesia is as follows: (i) private universities where elite students attend, (ii) four-year programme of the public universities, and (iii) three-year programme of universities which will not lead to a degree. The first to be affected in this case is that of the three-year programme, as indicated by the data.

In Airlangga Public University applications for admission increased for the four-year programme, but enrolments declined. Between 1997 and 1999 there was a decline of enrolment to the tune of 2.8 per cent. In the three-year programme the decline in enrolment was around 15 per cent during 1997-99, and at the university level by 5.6 per cent. The increase in applications and decline in enrolment indicate that there are more aspirants than there are financially sound means for seeking higher education. Also a factor is that many students drop out. In fact, a closer look at the data will indicate that the enrolment decline is not due to fewer new entrants, but to a larger number of drop-outs. To counter this phenomenon of drop-out the government introduced scholarship schemes.

The government came to the rescue of Airlangga University by providing it with extra aid to the tune of 22 per cent of its budget in 1998 and 37 per cent of its budget in 1999. Airlangga University received student scholarships from various sources for around 3,451 students in 1999. The university also introduced free tuition for nearly 42 students and tuition fees were accepted in instalments from many students who found it difficult to pay in one instalment. All this helped many families to cope with the crisis and retain students in the universities.

In Korea, too, many students dropped out of the higher education system during the crisis period. At the universities of IIU and Utata in Malaysia, student enrolment increased during the crisis period. This increase in enrolment and reduced budgets characterize public universities during the crisis period. It is very interesting to study the phenomenon of increasing enrolments in Malaysia and, to a limited extent, in Singapore. It is in direct response to the problem created by the fall in the value of currency, especially in Malaysia.

The fall in the value of currency has resulted in an increase in enrolments for at least three reasons. Firstly, many students returned from abroad because the study abroad suddenly became very expensive and hence many households could no longer afford it. Many of the returning students sought admission to Malaysian universities, which increased enrolments in the national universities. The IIU is the only public university that follows English as a medium of instruction. It seems many of the nationals on their return joined this university. In other words, the return of the nationals is one of the reasons for an increase in enrolments in the national universities.

Second, the number of students going abroad for studies declined for the same reason - a fall in the value of the ringgit. The family income could not support studies abroad, fellowships and scholarships became rare and there were further restrictions on foreign currencies. Universities in Australia and the United Kingdom experienced a reduction in Malaysian students during the period. This again increased the domestic demand for higher education in a country that traditionally used to send a large number of students abroad.

Third, a fall in the value of the ringgit made study in Malaysia cheap for foreigners. Moreover, the private institutions introduced franchising arrangements to obtain foreign degrees in Malaysia. The increasing student numbers and reduced resources made university staff in Utara Malaysia University, as in other universities, work harder and for longer duration. The university adopted flexible working hours to meet the increase in enrolment, but without an adequate infrastructure. In some cases classes were continued up to 10 o'clock at night.

Absorbing returning students during periods of budget cuts also led to quality decline. This is a challenge that many universities are facing in Malaysia. The ranking of many prestigious Malaysian universities, such as the University of Malaya and IIU, declined. While the ranking of Malaya University dropped from 11 to 33, the ranking of the International Islamic University declined to 65th position (Lee, 1999b).

In Chiang Mai University in Thailand enrolment increased during the crisis period. The increase in enrolment in this university was mainly due to widespread unemployment that made more secondary-school graduates pursue higher education instead of remaining unemployed. In a subsidized education system, continuing education is not a difficult task when the opportunity cost is declining.

Enrolment increased at the university level in Singapore for totally different reasons. One of the reasons is that the Singapore Government made a deliberate effort to attract foreign students to the country. To facilitate this process, the fee structure in the National

University of Singapore was restructured in 1977 and implemented from 1999. With the new fee structure, the cost of education of foreign students was substantially reduced to make it just 10 per cent above the level for the local students. Before the restructuring there existed a two-tier fee structure, where ASEAN students paid just half that of non-ASEAN foreign students. For example, the fee for a non-laboratory course at the university for an ASEAN student totalled US$6,350, while it was US$12,400 for the non-ASEAN students. It is believed that this measure has helped to attract many foreign students to the country. At present nearly 11 per cent of the total students enrolled in institutions of higher education in Singapore are from foreign countries.

Shift from public to private universities

During periods of economic crisis many parents shifted their children from high fee-paying private colleges and universities to public universities. This has happened more in Indonesia and Korea, where fees in private universities are very substantial. This has led to a decline in enrolment in private colleges. Some of the private colleges in Indonesia reduced fees to retain the students. This is an interesting reaction, where substitution is a mechanism to cope with the crisis.

Accountability measures

In Korean public universities professors are the most affected by the crisis. Evaluation systems are in place and many professors are stressed and unhappy about them. Merging of departments is another strategy adopted by the university to reduce costs.

One of the positive aspects of the crisis in Thailand was the granting of autonomy to universities. The presidents of all of the Thai universities met and reached a consensus in February 1998 on this issue. This implies that the staff will no longer be civil servants (Aragi, 1998).

(c) Impact on the private universities

The private universities behaved in ways different from the public universities. Some of them were very badly affected by the crisis, while others restructured and survived better. The Korean private universities were the worst affected in the region. The debts of 141 private universities in 1998 reached the staggering amount of 1.76 trillion won.

Many private universities faced an insolvency situation in Korea, perhaps more so in the medical areas. Purchase or leasing of medical equipment from outside increased losses to the universities during the crisis period. These courses were very expensive. Since household incomes were falling, the enrolment in these courses declined. The contraction of students to these courses resulted in decreasing revenues to private medical colleges and medical college hospitals. These institutions found it very difficult to continue their operations. In Malaysia also enrolment declined in the private universities, making it difficult for them to survive. In Indonesia and Thailand students shifted from public to private universities, the substitution effect.

During periods of falling income, it is difficult to keep the staff strength intact. The private universities, unlike the public institutions, were in a dilemma. Many private universities, however, attract students because of their renowned faculty; thus, sending back these faculty members may affect the student numbers and the income of the university. Therefore, the dilemma for the private university was how to reduce cost, while keeping the faculty. Some private universities, such as the Korean University, adopted a policy of retrenchment and freeze on the appointment of administrative staff.

They also encouraged early retirement of administrative staff. In the process, academic staff was less affected by the crisis. This solution is similar to the one adopted by the public universities but for a different reason.

There are two patterns of behaviour exhibited by the private universities in terms of enrolment. In some cases the enrolment declined. In other cases there was a sharp increase in enrolments – at Atmajaya (private) there was a decline in the number of applicants. Similarly, there is decline in new entrants in economics but an increase in other subject areas. The decline in applicants and new entrants in certain subjects was more than compensated for by increase in enrolments in certain other subject areas. For example, between 1997 and 1999 there was a decline of 38 per cent of applicants in economics, but the increase in enrolment in subjects like law (81 per cent) and psychology (60 per cent) was substantial.

The experience of the prestigious private university – Korean University – was different. During the crisis, students from foreign countries began to enrol in universities primarily because of the fall in the value of the won. Korean parents are ready to sacrifice their consumption for the future of their children's education. This attitude helped reduce to a large extent the negative effects on education. The competition for admission to good courses in prestigious universities is very severe. Therefore if admission is offered, many a parent finds it difficult to refuse.

Drop-outs

Many students in Korea left the studies and in that sense dropped out of the system during the crisis period. Although both the private and public universities faced the phenomenon of drop-out, its effect was substantially higher in the private universities. This is due to the high fee charged by these universities. In Indonesia also, there were drop-outs from the private universities. Some of the private universities tried to reduce tuition fees to retain students.

In the private colleges of Malaysia there was a drop in enrolment to the tune of 20 to 30 per cent in 1988, especially in courses where there was a requirement for students to spend a year abroad. The hardest hit were programmes linked to British universities, due to the fall in the value of the ringgit against the British pound. The private universities responded by restructuring the courses and their delivery. Many private universities responded by making the programme totally domestic-based. Consequently, in 1999 there were 17 private colleges in Malaysia offering 3+0 programmes. These programmes were selling like hot cakes because students can save between RM 10,000 to 50,000 in fees by doing the full course locally (Lee, 1999a).

4. Macro-level responses

The macro-level responses to the crisis are public policy responses based on a series of consultations held between the government and various agencies, including the financial agencies such as the World Bank, Asian Development Bank etc. Some of the governments did not entirely agree with the prescriptions provided by some of the agencies and they embarked on a policy almost independent of the agency perspectives. In general, the public policy response was in the form of various measures to protect those affected by the crisis. The support to universities, including for private universities, student-support systems, employment-maintenance system etc., falling broadly under the category of social safety-net schemes, was part of this arrangement.

The governments' most important mechanism for coping with a situation of crisis included reallocating its budgets – shifting budgets from infrastructure investments to more immediate needs of salaries of government personnel, social safety nets, repayment of loans and debt services. Social safety nets have included (i) severance pay and restrictions on lay-offs; (ii) unemployment insurance; (iii) pensions and provident funds; (iv) employment-generation programmes; (v) subsidies; (vi) seeking assistance from multilateral and bilateral agencies.

Education budgets were cut during the crisis period in some of the countries. But these cuts cannot be generalized for all countries. There were budget cuts in Malaysia in 1998 but through active and direct intervention of the Prime Minister of the country, such cuts were eventually reversed (Knowles et al., 1999). Public spending on education declined by around 41 per cent in Indonesia between 1977 and 1998. However it was restored to 72 per cent of the pre-crisis level in 1999. The early indications on the 2000 budget imply that the allocations have not yet reached the pre-crisis level. In Korea, social spending declined in real terms but remained stable as a share of the GDP. The budget cuts were sharp in Thailand and the Philippines. Budget cuts in these countries have nonetheless generally spared salaries of academic staff, but affected mostly teaching materials and maintenance activities. The schools have had to contend with reductions in off-budget sources of revenue such as fees and other contributions. In the case of universities, the cuts were more severe for libraries and laboratories, especially if they involved foreign exchange. The Thai Government had given 2 000 scholarships to overseas study programmes over the previous five years. All these were stopped during the crisis period.

The Prime Minister of Singapore announced the country's strong desire to remain competitive in the emerging knowledge economy by turning "Singapore into the *Boston of the East* with Harvard University and Massachusetts Institute of Technology serving as role models" (Tan, 1999). This policy helped in promoting education even during the crisis period. For example, "in recognition of the importance of R&D, the government has pledged that its R&D budget will not be reduced in spite of the current economic crisis affecting Singapore" (Tan, 1999).

The Singapore Government's operating expenditure marginally declined in nominal terms in 1998 and substantially in real terms to the tune of US$124 million. However, the development expenditure increased substantially during this period. In real terms it increased from US$98.1 million to 167.3 million during 1997-1998. The decline in per-student recurring expenditure (both in nominal and real terms) was substantial during this period. At the primary level it declined by 6.6 per cent (from US$2,636 to 2,463); at the secondary level it declined by 2.4 per cent (from US$3,980 to US$3,883); at the polytechnic level it declined by 7.7 per cent (from US$7,886 to US$7,279) and at the university level it declined by 20 per cent (from US$17,744 to 14,155).

In 1998, the Government of Malaysia implemented a series of stringent austerity measures, which included an immediate cutback in operating and development expenditure. Nevertheless, there is no evidence of any large-scale retrenchment of university faculty. However, this policy did affect the purchase of library books in public universities in Malaysia and in fact there was a freeze on their purchase. Similarly, the government introduced restrictions on faculty members travelling abroad for conferences. However, the Malaysian system recovered very quickly and social expenditure, including that for education, was restored in 1999.

The crisis came at a time when the Malaysian Government was in the process of introducing corporatization of public universities and five public universities were corporatized. Due to the crisis, however, the proposed new remuneration scheme which would have involved higher payments than at present, could not be introduced in Malaysia.

Enrolment

The situation with regard to enrolment is mixed. In certain instances there was an instantaneous increase in enrolment and in others there was a decline. In any case, decline in enrolment was seen more in private than in public universities which were levying high rates of fee. In Indonesia enrolments suffered a moderate decline during the crisis. The largest decline occurred at the junior secondary schools (ages 13-15) where enrolments declined by 2 to 3.6 per cent. In higher education, drop-out was more common than a decline of new entrants. Even in the case of new entrants, certain subject areas were more severely affected than others. The government introduced fellowships to prevent final-year students from dropping out. The crisis had no effect on school drop-out in Thailand, but in the Philippines, 7 per cent of the families reported taking children out of school. In fact, indications are that there was an increase in university enrolment in Thailand.

The pattern seems to be that "there is no strong evidence that the crisis has led to reduced primary school enrolments" (Knowles et al., 1999), but it did have a negative impact on secondary enrolment in all countries. Surprisingly, social demand for the tertiary level of education increased in many countries during the crisis period. This is surprising because the crisis affected the white-collar salaried middle classes, the direct clientele of higher education, more than it did the poorer households.

The increase in enrolment in the universities reflects the increasing unemployment among the youth, which brought down the opportunity cost of studying in the universities. This was the major reason suggested for increased enrolment in Thailand. In certain cases reduced employment opportunities among the youth was accompanied by crisis-related scholarships and loan programmes which made many return to or remain in the universities. The Korean case is more along these lines, although the impact of the foreign students seeking admission in Korean universities was not negligible.

Perhaps the strongest factor that influenced an increase in enrolments in the universities was the declining value of domestic currencies against foreign currencies, which made many student nationals return from abroad and seek admission in local universities. The crisis and its impact on the declining value of domestic currencies against the dollar has affected enrolment in higher education in three different manners: (i) return of students without completing courses, (ii) decline in fellowships and hence a decline in the number of students seeking admission abroad, and (iii) incoming of foreign nationals to study in these crisis-affected countries.

Among the countries studied, Malaysia and Singapore regularly send a large number of students to study abroad. Nearly 21.5 per cent of students in Malaysia and 19.7 per cent of the students from Singapore (UNESCO, 1999) study abroad. This is a high share for any country in the region. The devaluation of national currencies induced shifts away from overseas to domestic institutions, particularly in Malaysia and also in Singapore.

Around 2,000 Malaysian students returned from overseas in 1998 and continued education in Malaysia. More of them came from the United Kingdom than from Australia. This was partly because the fall in the value of local currency against the pound sterling was higher than that against the Australian dollar, and partly because education in Australia was less expensive than education in the United Kingdom. In Korea, too, the number of private students returning from abroad without completing their studies was large, numbering 2,600 in 1998. Special arrangements were made for admitting students to levels corresponding to the courses they had left in the Korean system.

This phenomenon operated to a lesser extent, especially in the case of private students, in Singapore. However, reliable estimates are not available. One advantage of Singapore over all other countries in the region is that it has a high level of per capita income (seven times higher than in Malaysia and three times higher than in Korea, see *Table 1*). This helped many parents to keep their children in foreign universities for a longer period than households in other countries could afford.

The second aspect of the problem relates to a decline in the number of students seeking fresh admission in foreign universities. Precise figures are impossible in this case. There are nonetheless strong indications of a severe decline of students seeking admission under the overseas study programmes. It is reported that there was a decline of 80 per cent in visa applications from Malaysia to Australia between 1997 and 1998 (Lee, 1999b). In 1997, 18,000 Malaysians studied in the United Kingdom and in 1998 the number was reduced to between 12,000 and 14,000.

Discussions on the Malaysian situation indicated that the Malaysian Government has reduced the number of scholarships and scholars sent abroad for studies. Those who did not go for higher education abroad sought admission in the Malaysian universities and this has led to an increase in enrolment in the national universities. The case is similar in Korea. This has increased enrolments in higher education in the institutions of higher education located in Malaysia.

The enrolment of foreign students in Korean universities has increased; this is because the decline in the value of the won made education in Korea cheaper. Between 1997 and 1999 the number of foreign students seeking education in Korean universities increased by 55 per cent. The number of students receiving fellowships to study abroad declined. Similarly, the number of foreign students coming to Korea under Korean Government fellowship programmes also declined. In any case, the latter two categories did not constitute a large number and the overall effect was thus substantially less than that regarding the inflow of students due to the declining value of the won.

Due to the crisis there was a sharp increase in the number of foreign students studying in Malaysia. Between 1996 and 1998 the number of foreign students studying in Malaysia increased from 5,635 to 11,733 - an increase of 108 per cent. They came from countries such as Indonesia, China, Singapore, Thailand and Korea because obtaining a Western degree has become cheaper in Malaysia. In 1998 there were 3,893 Indonesian students in Malaysia (Lee, 1999b). This factor further contributed to an overall increase in student enrolment in higher education in Malaysia.

The situation in Malaysia is very interesting. During the initial period of the crisis the private universities in Malaysia experienced a decline in enrolment. It seems many parents shifted their children to public universities, but the private universities found an opportunity in tapping the market for foreign students - those Malaysians who would have liked to go abroad for studies and those foreign students coming to Malaysia for studies. The private universities restructured their courses, programmes and modes of delivery. As mentioned earlier, many private universities that had franchising arrangements with foreign universities changed their strategy from offering part of the course in the United Kingdom or Australia, to offering the whole course in Malaysia. The students could still get a foreign degree by enrolling in these private universities but remaining in the country.

This was a very attractive arrangement for the national students who could not go abroad. This was also very attractive to foreign nationals, who found countries like Korea, Malaysia and Singapore less expensive than the United Kingdom during normal periods and much cheaper during the crisis period. In 1999 there were 17 private colleges in Malaysia offering a 3+0 programme (3+0 implies 3 years of study in the Malaysian university and 0 year of study in a foreign university, i.e. the programme became totally domestic based). These programmes are selling like hot cakes because students can save between RM 10,000 to 50,000 in fees by doing the full course locally (Lee, 1999b). This strategy has revived the private sector during the crisis period and many private universities were opened during the recent past. It seems that the private universities have an advantage over the public universities in attracting foreign students because of the language of instruction. Public universities in Malaysia (except IIU, which is an international university) are not permitted to use English as a medium of instruction.

Direct support to students

Although food security was the primary concern in Indonesia and the Philippines, these governments took measures to reduce drop-out through various means of direct support to students at the university level and families at the school level. The stay in school programmes of Indonesia provided scholarships and block transfers to families in Indonesia to keep their children in school.

In Indonesia an SSN programme was created. The social protection programme included education and health and was jointly funded by the World Bank, ADB and the government. It consisted of (i) scholarships and grants to school education, (ii) specific operation and maintenance grant for primary schools, and (iii) scholarships and block grants for university. Around 34.8 per cent of the social safety net went to education. However, a major share of the safety net for education was allocated to primary education. The Indonesian Government introduced block grants to universities to overcome the phenomenon of drop-out. The block grants started reaching the universities only in 1988-1999 and the scholarships in 1999-2000. These fellowships were targeting the students at the terminal stages to reduce drop-out. A total of 180,000 scholarships were provided at the university level in the year 1999-2000. However, the amount of fellowship was reduced in many universities due to budget cuts.

In Korea various loan scholarship programmes were initiated by many commercial banks. Some of the fellowships were long term in nature and had provision for repayment of the loan after five years of graduation. The interest rate charged by the banks was very low and it provided a good opportunity for many students to continue their studies. In other words, this scheme helped reduce drop-out and attracted more students to higher education than would have been possible during the crisis period. Government support was extended to students from unemployed families and other poor families. Due to these support arrangements and the presence of foreign students, enrolment in higher education in Korea increased during the crisis period.

In Thailand, due to the financial crisis all public universities became autonomous. The presidents of all three Thai universities reached a consensus in February 1998 on this issue. This implies that the staff will no longer be civil servants (Atagi, 1998).

5. Some useful lessons

Recent reports indicate that recovery is taking place at a fast rate; therefore, many of the problems faced by these countries during the crisis will be overcome. Still there are those who believe that the crisis has damaged the competitive edge of these countries. Since human capital and human resources were instrumental in attaining and sustaining a higher rate of growth, the recovery and future development too will depend upon the very same factors.

The recovery is led by increasing domestic and intraregional demand for exports. "One sees that the quality of recovery has improved over the past year. Drivers of growth have shifted from net exports of domestic demand and to some extent intraregional trade, making Asia less vulnerable to stocks from outside the region" (Iwasaki, 2000, p. 38). Manufacturing is leading the growth in East Asian countries.

Did the crisis come to an end? The REVIEW 2000 Survey indicates that "ever since the Asian crisis, a greater number of Asians have been putting in more hours at their offices, factories and shops" (Granitsas, 2001). Nearly 40 per cent of the respondents said they worked more hours in 2000 – in 1999 the corresponding percentage was 33. The answers were the same across the board – in every business sector and in every job category. The reason is unemployment. Unemployment rates are still higher than the pre-crisis levels. "The price of keeping a job in a market that is very tight for jobs is to work more hours and for less pay. People are nervous about maintaining their employment and are much more disposed than before to doing more overtime for less pay" (Ian Chambers, Director East Asia Operations, ILO as quoted in *Far Eastern Economic Review*, January 2001).

Across the region the story is the same. South Korea faces the prospect of more and deeper corporate restructuring, and growth in the Philippines and Indonesia looks feeble. Due to long hours of work, leisure is less and people spend less on consumer items. Retail spending in every country remains below 1997 levels (Granitsas, 2001). "Economic health is highly dependent on consumption and leisure is one of the most important factors that will either boost or reduce consumption" (Ian Chambers, ibid.).

Both the crisis and the way many governments respond to it bring to light certain factors that are very important for these countries. "Empirical evidence as well as recent experience in East Asia and Africa buttress the theoretical proposition that economies can suffer from too little regulation, just as they can suffer from too much or the wrong kind of regulation" (Stiglitz, 1998, p.30). In other words, the role of the state in development is becoming a debating point. While East Asian countries claim to have achieved what they did through market forces, the crisis indicated that unregulated markets could be highly dangerous. Therefore the state may be intervening more actively in these economies. Even though the state exited earlier on through the back door, it now openly enters through the front door.

One of the problems of development in these countries was that the material progress was much faster than developments in the social safety systems. The private sector, which led economic growth, does not seem to invest in social security systems as in the developed world. While the virtues of the market are trumpeted, the conditions of success in the developed countries are conveniently forgotten. All these countries have a low public expenditure ratio (to GNP) and it was not sufficient to develop a widespread public-funded social security system. The growth-promoting private sectors considered it neither their responsibility nor a priority area for investment. Unfortunately, the industrialization process in these countries had already destroyed the family network and other social security systems usually found in traditional societies. In other words, most of the economies had moved out of the traditional institutions of social security but had not replaced them with a public social security system commonly found in industrialized countries. Therefore, one of the lessons from the crisis is to develop a widespread reliable social security system, which will act as a social safety net during periods of crisis. This requires national-level assignments and hence the state has to take the initiative and create a system capable of absorbing shocks.

The crisis also witnesses issues related to targeting of support systems and subsidies. Since poverty reduction in these countries followed from growth rather than through supplementary programmes specifically designed by the government, these economies do not have much experience in targeted subsidization processes. Nevertheless, situations like the crisis period require specific targeting of the programme to reduce the adverse impact. How to target interventions involves a capacity for decisions that cannot be made by the market. A well designed and targeted subsidy system and support programmes can be a good investment to improve the efficiency of the system and reduce the miseries of the people.

The traditional solutions do not always work. Studies indicate that the rural areas and agricultural activities were less affected by the crisis. The ADB study indicates that there is no evidence of declining enrolment or increasing drop-out of children from primary schools. However, in some cases the public policy shifted resources from higher to basic education. Such policy prescriptions were more rational and reasonable during periods of structural adjustment.

Applying those solutions in the present context indicates that old habits die hard. This implies the need for developing and relying on domestic capacities for policy analysis. Policy analysis should become an integral part of the decision in making policy.

One of the important behavioural patterns of the households was that they substituted public services for private services. This happened among the non-poor people. This process has contributed to reducing the adverse impact on enrolments in higher education. For example, Indonesian children were withdrawn from private universities and were enrolled in public universities. It seems that the private sector is a good friend in good times, but that people part company with the private sector when there is a crisis. Therefore, it is in the interest of the private sector to maintain its credibility, that it should also strive towards the development of a reliable social security system.

The experience of Singapore indicates that education can be used as a good mechanism to fight crisis. Most of these economies are export oriented and in the context of the globalization process, competitiveness depends on the quantity and quality of higher education provided by the system. The role of higher education in sustaining competitiveness in the globalized economy can be emphasized in the strategies to combat the crisis. Investing in higher education can be adopted as a common strategy to overcome crisis, as in the case of Singapore. In other words, investing in education helps households to overcome their difficulties and investing in higher levels of education helps improve the competitiveness of the economy.

Crises of this nature are regional. Therefore, there is a need to develop a regional perspective before designing national reform measures, especially because national policies may have regional implications. Developing such a regional perspective will help reduce conflicting policy measures adopted by countries that suffer from similar problems. There is therefore a need to develop or evolve mechanisms of regional consultation to realize strategies in the field of education.

of education.

As mentioned at the beginning of the paper, public expenditure in the East Asian economies as a share of GDP was relatively small and hence this could not compensate for the losses due to the crisis. Before the crisis, public-provided safety nets tended to be limited in scale and coverage. Moreover, cultural and social factors did not favour an expanded social safety net programme. There was a social stigma attached to social transfers. People preferred to depend more on family and community networks than safety net provisions made by the public authorities. Due to these factors the safety net programmes accounted for a small share of public budgets (for example, 2 per cent in Thailand and 1.7 per cent in Malaysia in 1996).

The situation changed dramatically during the crisis period. People realized that the traditional family network had weakened and the support needed was enormous. Consequently, the social safety net programmes expanded in all countries. For example in Korea, social safety net expenditure increased by more than three times, from 0.6 per cent of the GDP in 1997 to 2.0 per cent in 1999. Public support of private universities was also important to sustain the private sector. For example, the Korean Government provided 990 billion won to support the private university education system during this period. Thus, public support in different forms sustained the system of higher education during the crisis period. In other words, the role of the public sector cannot be ruled out, even when higher education is market driven.

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II. IMPACT OF THE ECONOMIC CRISIS ON HIGHER EDUCATION IN INDONESIA

by Agung Purwadi*

1. Introduction

Indonesia was engulfed by the East Asian economic crisis from the last quarter of 1997. Even though it was initially a currency crisis, stemming from the falling value of national currency against the US dollar, it became an economic crisis in early 1998 and finally led to political upheaval. The crisis resulted in the resignation of the President, who had led the country for more than three decades. This paper attempts to analyze the impact of economic crisis on higher education in Indonesia. Impact of the crisis on higher education is investigated in terms of changes in the demand for and supply of higher education. The number of applicants, new entrants and of enrolment and the number of graduates coming out of the system are the basis for measuring the demand. The crisis affected the higher education sector through variables, namely the economic capability of parents to pay for higher education and that of the government to provide subsidy. This supply of higher education is analyzed on the basis of changes in the conditions of providing higher education.

Impact of the crisis in Indonesia differed among regions (Watterberg, Sumarto and Pritchett, 1999). Many regions were hit hard, while others were not. Since the impact of the crisis on higher education was felt to various degrees across regions, the sample universities were selected from regions that were hit hard by the crisis, i.e. Jakarta (the capital) and Surabaya (the second largest city) in Java Island. In Jakarta, Atmajaya Catholic University was selected to represent private universities. In Surabaya, Airlangga University also represented public universities. The Atmajaya University mainly offered four-year college (S-1 programme) and graduate school (S-2 programme) study programmes. The Airlangga University offered a wider variety of study programmes, such as three- and four-year college, and graduate school, including doctorate programmes. For the purpose of this study the three- and four-year programmes of the university are analyzed. These programmes are more comparable with public and private universities.

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2. The nature of the crisis

The impact of the crisis can be seen in terms of changes in the growth rate of inflation and unemployment. First, the crisis led to a fall in GDP growth. The GDP that grew at a ratio of 4.6 per cent before the crisis, dropped to -3.0 per cent in 1998. Moreover, the annual inflation rate increased from a mere 6.6 per cent in 1997 to 20.0 per cent in 1998. The national unemployment rate increased from 4.7 in 1997 to 5.5 per cent in 1998 (Booth, 1999). However, it should be kept in mind that the effects of the increase of the unemployment rate differed among groups. The national unemployment rate increased at a faster rate for the male population living in urban areas, and for adults in general. The unemployment rate increased from 3.5 to 4.3 per cent for males, 6.7 to 7.2 per cent in urban areas, and 1.4 to 2.1 per cent for adults (*Table 1*). Furthermore, the impact of the crisis on employment was made evident by the increase of the number of people making up the labour force. Due to a decrease in family income, people economically inactive before the crisis were forced to find employment. They could not afford to be unemployed because of the lack of a good social security system and were willing to accept any kind of job.

Table 1. Unemployment rate, 1997 and 1998

		August 1997 %	December 1998 %
Gender	Male	3.5	4.3
	Female	4.3	3.7
Place of residence	Urban	6.7	7.2
	Rural	2.2	2.2
Age	Youth (15-24)	12.8	12.4
	Adults (over 25)	1.4	2.1

Source: Booth, 1999

Furthermore, it was observed that among those employed, there was a change in the share of labour force from manufacturing and service sectors to primary sectors (*Table 2*). This was primarily due to diminished employment prospects in any of the second and tertiary sectors and many workers changed their orientation and entered the agricultural sector. Data from *Table 2* clearly indicate that there was a positive change of proportion within this sector, whereas changes were negative in almost all sub-sectors of manufacturing and service industries.

Table 2. Changes in the pattern of employment

	Composition ratio %	
Sector	February 1997	February 1998
Agriculture	44.5	48.6
Mining	0.9	0.9
Manufacturing	11.4	9.4
Electricity	0.4	0.3
Construction	4.8	4.1
Trade	17.7	17.3
Transportation	4.6	4.3
Finance	0.8	0.7
Service	14.7	14.3

The Indonesian crisis was characterized by its impacts being different between provinces and between urban and rural areas. Since the economic crisis was initially a monetary crisis related to dollar value, it mostly struck places that directly dealt with a high amount of money transactions, i.e. urban areas where people paid for everything in money terms. On the other hand, rural areas that were basically a non-monetarized economy, where farmers might directly consume their own products, were less affected by the crisis. Even within the urban sector, the crisis generally affected export-based regions by making their commodities more price-competitive in dollar terms. Exporting regions such as North and South Sulawesi could export more products and those provinces became more affluent because they were able to sell much more in quantity, i.e. cocoa farmers and fishermen, for instance. The study (Waterberg *et al.*, 1999) found that regions in the hardest-hit quintile were West Java and parts of Central Java, urban areas, East Nusa Tenggara, parts of West and North Sumatra, and some parts of Kalimantan. The study also revealed, however, that no part of Java was in the smallest quintile.

Public policy measures

Late in October 1997, the Government of Indonesia reached an agreement with the International Monetary Fund (IMF) for help in restructuring the economy. The IMF, together with the World Bank, the Asian Development Bank, and many countries such as Japan, came up with a loan package of US$23 billion. The loan was linked to adjustment programmes that included fiscal and monetary discipline, banking-sector restructuring, deregulation and trade reforms. The government postponed or cancelled certain expensive infrastructure schemes, such as road and energy projects. The objective of the banking-sector restructuring was to have fewer but more efficiently managed banks. Deregulation and trade reforms aimed at removing trading monopolies for key staple foods. However, even though the co-operation with IMF is still active, the economy does not yet indicate significant improvement. This is also the case with the political situation. The effects of political instability on economic ups and downs are known by all.

3. Impact of the crisis on higher education

(a) Expansion of the education system

Country planners seem to have adopted a human-capital approach to educational development in Indonesia. Education was considered to be a national investment to realize an increase of human skills, knowledge and capacity. For that reason, the national education system should develop basic ability to read, write, and count. The government adopted a national curriculum to ensure that all students from approximately 14 000 inhabited islands receive similar education. However, in order to address diverse local needs, the local content of curricula was introduced by approximately 20 per cent in 1994. The content is both decided and developed locally. Nonetheless, due to the unavailability of curriculum developers, textbooks and teachers, most of the local content is developed at present at the provincial level.

Educational provision has increased drastically in the past 25 years (*Table 3*). Educational policy was to focus on the provision of basic education for the masses. This policy was translated into universal basic education programmes, where basic education consists of primary and junior secondary education. As a result, the net enrolment ratio of primary schools jumped from 58 per cent in 1968 to 95 per cent. The gross enrolment ratio of junior secondary schools jumped to 58 per cent while, during the same period, that of senior secondary schools rose to 35 per cent and that of higher education to 10 per cent.

Approximately 41 million students were enrolled in the existing formal schooling system in 1998. Nearly 26 million of these were enrolled in primary schools, almost 8 million in junior secondary, almost 5 million in senior secondary, and almost 3 million at the tertiary education level. Another 2 million enrolled at various levels of school education. The high proportion of primary and junior secondary students indicated that the country had been making great efforts to provide more equal opportunities at these levels of education.

Government policy to focus on provision of education for the masses was reflected by key indicators of educational finance. Primary education received more than one third of total annual expenditure and government financed nine tenths of its total annual spending. While, on the other side of the spectrum, tertiary education only received slightly higher than a quarter of the total annual expenditure and government only contributed the same portion of the annual expenditure. About 72 per cent of the annual spending on tertiary education was borne by parents.

Table 3. Growth of the education system

Educational level	1970	1980	1990	1998
Primary school	12,821,618	22,551,870	26,348,376	25,687,893
Junior secondary education	1,292,230	3,412,116	5,686,118	7,564,628
Senior secondary education	598,110	1,754,496	3,700,667	4,688,575
Tertiary education	206,800	543,175	1,590,593	2,690,662
Institution				
Primary school	64,040	105,485	147,066	151,042
Junior secondary education	6,527	10,956	20,605	20,960
Senior secondary education	2,668	4,901	11,490	12,009
Tertiary education	231	403	963	1,526
Teacher				
Primary school	397,500	665,264	1,136,907	1,152,536
Junior secondary education	94,615	202,062	409,739	431,582
Senior secondary education	54,040	127,114	327,383	332,198
Tertiary education	31,500	53,777	128,652	196,103

Figures of public universities were very different to those of the total university system presented above. Sources of funds of public universities were public allocations, student fees, and other self-generated funds. Public allocations accounted for about 67 per cent, self-generated funds for about 22 per cent, while university fees only accounted for 11 per cent of total funds. Furthermore, approximately 38 per cent of funds for higher education went to public universities, while 58 per cent went to private universities and the remaining 4 per cent for Islam universities coordinated by the Ministry of Religious Affairs.

At the national level, public money spent for public universities followed this pattern. Approximately one third of the overall spending for public universities was used for investment expenditures, while the remaining 67 per cent was for recurrent activities. Spending under the investment expenditures was exemplified by land acquisitions, university building development, and equipment purchase. Recurrent activities included salary (and welfare) and non-salary. Approximately 44 per cent of the recurrent budget went on salaries and staff welfare.

A total of 1,526 higher education institutions enrolled around 2.7 million students, accounting for approximately 12 per cent of the age group (19-24 years) in 1998-1999. The provision of tertiary education had the following characteristics. Firstly, tertiary education was more attainable and expanded in Java island (compared to other islands). Tertiary education availability in Java was three times higher than that of Sumatra and more than twice that of Kalimantan and other east Indonesian islands. Second, share of tertiary graduates in total employment was still very low compared to other levels of educated groups. The high proportion of a less-educated labour force was still considered to be a constraint to broach industrialization and compete with East Asian economic forces. It was mainly due to this reason that the Ministry of National Education developed an ambitious plan to increase the gross enrolment ratio from the current 10 to 25 per cent in the year 2025. However, this plan seems to have been halted by the economic crisis. The main reason was the high amount of per-student public subsidy to higher education, which was seven times that of primary and four times that of junior secondary schools. In times of crisis, provision of higher public subsidy to the more affluent university students should be restricted.

In order to solve the dilemma of restricted public subsidy and need for a more educated labour force, the government recently tested a plan for provision of autonomy to public universities. Autonomy brought decision-making and accountability closer to the field and, in the final stage of the scenario, public universities would be much more independent of public funds. Most of the four pilot universities, however, reacted by increasing university fees.

Efforts to develop tertiary education within the framework of creating centres of excellence, and promoting the mastery of science and technology, met the following problems. The majority of students were studying social sciences and only one third of the enrolment was in disciplines directly supporting science and technology. The direction of science and technology development should be oriented towards increasing the proportion of natural sciences and technology by nurturing the newly private education institutions. The share of private institutions in providing tertiary education was higher than that of public institutions. They controlled [illegible] out of [illegible] institutions that accommodated [illegible] per cent of tertiary education enrolment. Individually, the number of private institution students varied widely but for most only a small number of students enrolled. Contrariwise, two-thirds of the public and private institution students enrolled in faculties of social sciences and education programmes, 14 per cent in engineering, and the remaining 19 per cent in other science-based programmes, such as medicine and agriculture.

(b) Impact of the crisis on higher education

Impact at the macro level

Discussion on impact will be provided in two steps. As a first step, impact on university demand and enrolment-related matters will be discussed briefly. The second step – impact on higher education finance – will follow.

As mentioned previously, the impact of the economic crisis differed by region. In such a situation, efforts made to aggregate the impact into a single picture may be misleading. The reason is that the positive and negative impacts might sum up when a single national 'snapshot' was made. Data in *Table 4* seem to indicate that there was no negative impact of the economic crisis on higher education. Applicants, new entrants, enrolment, and graduates of public and private universities all increased after the 1997 crisis.

Table 4. Key indicators of higher education in Indonesia around the economic crisis

Public	1995-1996	1996-1997	1997-1998	1998-1999
Applicants	535,402	538,640	559,275	564,177
New entrants	[illegible]	[illegible]	[illegible]	[illegible]
Enrolment	[illegible]	[illegible]	[illegible]	1,171,531
Graduates	[illegible]	[illegible]	[illegible]	[illegible]
Private				
Applicants	[illegible]	[illegible]	[illegible]	[illegible]
New entrants	[illegible]	[illegible]	[illegible]	[illegible]
Enrolment	1,450,371	1,469,771	[illegible]	[illegible]
Graduates	[illegible]	[illegible]	175,086	[illegible]

Source: Statistics of education, several years.

Under the reduced national education budget, a new priority among educational levels and programmes within each level had to be set to avoid setback. Indonesia, in order to protect investment, already spent on basic education as the basis for a higher level of education. Deterioration of both quality and quantity of basic education would be too costly if the cure must be taken at higher levels. Besides, it was the poor who could not go any further than basic education and who suffered the most during the economic crisis. From an equity point of view, basic education could thus be considered as the most needy level. The strategy was therefore to grant highest priority to basic education, while higher levels had to cover. Data shown in Table 5 clearly indicate that the 1998-1999 budget priority was for primary and junior secondary education. Higher education was even budgeted to decline by 26 per cent in real terms compared to 1996-1997. While the number of students increased by almost 30 per cent between 1996-1997 and 1998-1999, per-student allocation became much smaller. In other words, only basic education could sustain and increase its share. All other sectors, apart from the secondary level, indicated a decline in resource availability in real terms. Now let us analyze the cut in higher education.

Table 5. Educational resources allocation, 1998-1999

Educational level	1996-1997 realised (Rp million)	% share of total	1998-1999 (Rp million)	% share of total	% increase in real terms
Primary and junior secondary	1,095	35	3,656	52	+56
Senior secondary	667	22	897	13	-18
Higher	990	32	1,566	16	-26
Non-formal	88	3	130	2	-35
Staff development	146	5	169	2	-48
Other	158	5	469	7	-32
Total	3,090	100	6,930	100	0

Source: Education in Indonesia: from crisis to recovery.

Impact at the university level – educational institutions affected

Universities selected for the case studies are located in regions that were the hardest hit by the crisis, where impact of the crisis appeared as a reduction of demand and enrolment, although this is not reflected in the overall picture presented in *Table 4*. In other words, many individual universities experienced a decline in enrolment, even when at the national level enrolment showed an increase. In which universities did enrolment decline? The reduced demand was felt in the elite private university sector. For example, the number of applicants for Atmajaya University decreased by about 5 per cent between 1996-1997 and 1997-1998 and it smoothed over to become a mere 0.7 per cent between 1997-1998 and 1998-1999. The crisis simply resulted in some people no longer affording university education with a specific quality and social status offered at a certain price. In other words, the fact that elite fee-charging private universities experienced a decline in enrolment is evident.

Reduction of enrolment occurred in the least costly S0 programme of our second-liner public university sample. The reduction of this specific programme of Airlangga University was due to drop-out. The magnitude of reduction was about a yearly 8 per cent at the two-year point following the crisis. The crisis simply prevented pupils of low economic status from affording even the least costly university education.

The above guided us towards findings that the crisis hit harder the economically least capable parents living in hardly-hit regions. Parents from economically capable groups who could no longer afford elite private university education still had some university education alternatives to choose from. Nonetheless, parents from economically least capable groups of society simply found that their children were taken away from university education by the crisis.

It is interesting to note trends in Indonesia. The crisis affected the demand for higher education by both better off and poor households. Since economically better-off students studied in elite private universities, their parents found it difficult to afford a higher ratio of fees. They withdrew their students, who thus enrolled in public universities that are subsidized. However, in public universities, students from a poorer economic background used to seek admission, found it difficult to continue and dropped out. In other words, the better off lost a chance to pursue quality higher education, whereas less advantaged groups lost their chance to pursue higher education.

The macro level

The economic crisis especially hit economically least capable families. To minimize the negative impact on this group, all efforts were co-ordinated under the so-called Social Safety Net (SSN) programme. The SSN programme was first implemented in 1998-1999. Its budget was approximately Rp 9.4 trillion for funding 15 programmes (SSN Management Co-ordinating Team, May 2000). After spending a high amount of funds with very wide priority, the SSN programme was budgeted the second year for about Rp 5.6 trillion, with very narrow priorities that were much more relevant to the meaning of 'social net'.

The core objectives of the SSN programme in 1999-2000 were to provide food security, social protection and employment creation. The social protection programmes that were included were in the education and health sectors. Data in *Table 6* indicate that from approximately Rp 5.6 trillion allocated, the highest proportion was set for social protection in the education sector. A social protection programme in the education sector that was jointly funded by the World Bank, the ADB, and the Government of Indonesia consisted of: (i) scholarship and block grant for primary schools, junior secondary schools, senior secondary schools, and higher education; (ii) a specific grant for primary schools' operations and maintenance; and (iii) provision of supplementary foods for primary school students.

Table 6. Resources allocation for core programme of the 1999-2000 social safety net

Component	Allocation	
	Amount (Rp 000,000)	%
Food security	119,573	2.12
Social protection		
Education		34.82
Primary and secondary education	1,118,720	
Higher education	308,508	
Primary school	536,468	
Health	1,685,399	29.89
Employment creation	1,800,000	31.92
Total	5,638,668	100

Source: Secretariat Tim Pelaksana (1999), Programme JPS, Jakarta: July.

Approximately Rp 305,508 million of the Rp 1,763,696 allocated to the education sector was for higher education block grants and scholarships. More than 50 public and 1,000 private universities received a block grant in 1999-2000.

Up until the end of 1999-2000 (fiscal year), 180,024 students (particularly in their senior year) were supported with scholarships. A target audience for scholarship provision was university students who chose to drop out without any financial help. Two types of scholarship were offered. The first was received by students in exchange for a part-time university job. This type of scholarship was paid as a monthly amount of Rp 60,000. The second was financial help for students of the final year who were writing their final report.

The amount allocated was Rp 350,000 per student to be paid at once. However, due both to a limited budget allocated to those universities and a high demand for such financial help, several universities paid less than the allocated amount. Brawijaya University and Jember University, for example, paid Rp 100,000 per student; Malang University, Rp 150,000; and Sriwijaya University paid Rp 225,000.

At the university level

Traditionally, Airlangga University and Atmajaya University had several measures to help prevent needy students from dropping out of higher education. The measures were concerned with scholarship and tuition fee.

By receiving scholarships from various companies and other institutions, students became able to pay for education and some living expenses. In 1999, 3,451 students received scholarships in Airlangga University alone. Airlangga university students also received scholarship under the SSN programme. However, it was only starting to be available in 1999-2000.

Two types of measures concerned tuition fees. The first was free tuition. Different from a grant of scholarship, free tuition did not cover any living expenses. In 1998-1999, 42 students received such welcome help at Airlangga University. The second measure was paying total tuition fees, but in increments. In 1998-1999, 498 students benefited from such special treatment in that university. In 1998-1999 Airlangga University received extra aid of approximately 22 per cent and in 1999-2000 it became 37 per cent of its total revenue. This extra aid helped students indirectly by preventing the university from increasing the percentage of tuition fees to be paid.

These institutional efforts were helpful, however, but with one prerequisite. In order to receive a scholarship, students with little revenue must be academically excellent, which meant that average needy students were simply eliminated.

One could generally notice two types of support offered by the public system during the period of economic crisis. The first category of support was to institutions of higher education (universities). The second type was brought to students in order to arrest the drop-out phenomenon among them. Both of these complementary efforts helped the system to maintain its activities, even during the crisis period.

4. An assessment of the crisis and its impact on education

Impact of the economic crisis in Indonesia differed from other countries and it varied among different regions within the country. Some regions were hit hard, while others were not. Higher education institutions located in the hard-hit regions had a more severe adverse impact compared to those located in the less hard-hit zones. Even within hard-hit zones, the impact of the economic crisis among individual students varied, depending on their economic capability. Those with weak economic capability felt the impact more severely. Several students of this group were even forced to drop out of the system, and many groups did not seek admission. In the case of students from a better socio-economic background, they shifted from a good private university to a public institution.

Economic crisis reduces public subsidy for higher education, regardless of the location of the institution. Public subsidy for students, particularly for public higher education institutions, was reduced and this has further contributed to the misery of poor students.

What should be done to reduce the adverse effects of economic crisis on higher education? Our analysis shows that there are immense steps taken towards adopting alternative policy measures with a view to reducing the impact of the crisis.

Equity principle of public funds allocation. Firstly, distribution of the limited amount of public funds available for higher education institutions should take into account the degree of impact of the economic crisis on the region and institutions. Public funds directed for impact reduction should not be evenly distributed among all regions. Institutions located in regions where the crisis is severe should receive more emergency funds, in terms of university block grants and scholarships for students, compared to institutions located in a less-affected region.

Second, all institutions within a region hit hard by the crisis may not be equally affected. Hence, emergency funds shared and distributed among higher education institutions take into account the financial strength of each individual institution. Economically weaker institutions should have higher priority for receiving funds than economically strong institutions.

Third, within individual institutions that receive emergency funds, the distribution of funds among students should take into account the socio-economic background of the individual student. The limited amount of funds should be given on a priority basis to economically poor students. This will reduce the number of drop-outs from the system.

Strengthening capacity of individual institutions. Reduction of public subsidy available for higher education institutions should render these institutions less dependent on public funds. Several changes in finance-related policy should be made. Firstly, improving financial independence and autonomy through finding avenues for mobilizing resources. Developing production units or profit centres in the university is useful. This entrepreneurial effort of public institutions however, needs a drastic reversal of the way of thinking among university management and administration teams. They should reverse the old paradigm of government-financed programmes and activities into market-oriented ones. Government is one of the partners in financing such a business-like management orientation and the decision-making style is important, since the government itself has started to pilot more autonomous university management in the best public universities.

Second, increasing financial participation of the affluent students combined with an educational voucher and other modes of financial help for needy students. Financial help may appear in terms of on-campus part-time jobs. This kind of job may be made available by the reduction in recruitment of administrative staff. However, this typical textbook-based recipe for economics of education should begin with good socialization or introductory steps. Affluent students may use some on-campus student associations as pressure groups simply in order to avoid tuition increase. They simply use the most basic economic principle of cost-effectiveness: optimize the benefit of university study, while keeping costs at minimal level.

To sum up, the policies to cope with the crisis situation should focus on a strategy of targeting – regions, institutions and individual students – based on the impact and incidence of the crisis. Similarly, the higher education system should, slowly but steadily, move towards more independent functioning in all aspects of management, including in matters related to finances. This requires greater autonomy in operations for public universities.

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III. IMPACT OF THE ECONOMIC CRISIS ON HIGHER EDUCATION IN KOREA

by Hyunsook Yu*

1. Introduction

In 1956, Korea was a poor agricultural country, with a population of 20.72 million people and a per capita GDP of US$87. Forty years later in 1995, Korea transformed itself into a well-developed industrialized economy with a population of 45 million and a per-capita GNP that exceeded US$10,000. At present it is the 11th largest economy in the world in terms of trade. Korea's rapid economic growth dates from 1962, when the development strategy was clearly defined and plans for economic development led by the government were formulated. This government led economic development and succeeded in overcoming problems related to lack of capital through encouraging foreign investment and adoption of export-led growth strategies. While there is certainly much room for debate regarding the merits or demerits of this government-led development strategy, no one can deny that this was Korea's economic strategy in its era of development. Thanks to the public policy and a favourable environment for foreign investment, the Korean economy continued to grow at a high rate until the crisis crushed the economy.

One of the distinguishing features of Korea's development was its reliance on human capacities and the government invested heavily in school education and promoted higher education. Korea still continues to enjoy the privilege of having one of the highest-educated labour forces in the region. Public support for education in Korea led to a very fast expansion of the system. *Table 1* illustrates the quantitative growth in

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Korea's education system. If one examines the enrolment rate for the appropriate age group, one understands that nearly everyone received at least an elementary and middle school education, while more than 90 per cent attended high school. Of the students, 61.8 per cent managed to attain some type of tertiary education. Certain policies adopted by the government in the 1960s helped achieve expansion of educational opportunity and retention of children in school.

Table 1. Expansion of the education system in Korea

	Before crisis				During crisis		
	1970	1980	1990	1996	1997	1998	1999
Enrolment ratio (%)							
Primary	102.8	103.1	99.8	97.1	98.6	98.3	98.6
Middle school	54.1	96.0	98.4	102.9	101.0	99.9	98.8
High school	29.3	66.2	87.2	89.8	94.6	95.6	97.3
Higher education	9.0	17.0	37.4	61.8	68.8	74.3	78.0
Teachers							
Primary school	101,095 (1.00)	119,064 (1.18)	136,800 (1.35)	137,912 (1.36)	138,67	140,121	137,577
Middle school	31,207 (1.00)	54,858 (1.75)	89,719 (2.87)	99,928 (3.20)	97,931	96,016	93,244
High school	19,854 (1.00)	50,948 (2.57)	143,631 (7.23)	101,591 (5.11)	104,404	105,945	105,304
Junior college	1,637 (1.00)	5,488 (3.35)	7,382 (4.51)	11,515 (7.03)	12,468	10,926	11,381
College and University	7,779 (1.00)	14,458 (1.86)	33,340 (4.28)	49,368 (6.34)	53,300	40,345	41,226
Transition rates to Upper School level							
	%	%	%	%	%	%	%
Elementary middle	66.1	95.8	99.8	99.9	99.9	99.9	99.9
Middle high	70.1	84.5	95.7	99.0	99.4	99.5	99.4
High, College and University	26.9	23.7	33.2	54.9	60.1	64.1	66.6

Note: 1. Transition rate = $\frac{\text{Higher school entrants}}{\text{Graduates}} \times 100$

2. Figures in the parentheses are the growth ratio based on the year 1970.

3. The Enrolment ratio for the elementary is estimated to be higher than 100 per cent. The reason is that individuals outside the age cohort corresponding to a particular educational level are enrolled in that level

Source: Korean Educational Development Institute(1996). *Educational Indicators in Korea.*

For example, the government introduced a 'no-exam' middle school policy after 1969. This 'no-exam' policy meant that the entrance examinations executed over six years for admission to middle school would be stopped, to be replaced by a system where students were admitted under a lottery system. The background of decision was the belief that selecting students who had finished elementary school for admission to middle school through a competitive examination is not appropriate. This policy led to the achievement of an almost compulsory middle school-level education in Korea. Another important educational reform policy achieved in the middle of 1974 was equalization of the high schools. This high school equalization policy was implemented to equalize opportunities to education, and was aimed at preventing the emergence of top high schools that nurtured a small elite. Another reason for this policy was the emergence, in the absence of top middle schools, of intensive private tutoring to enter the top high schools. In order to prevent this situation, individual examinations administered separately for each high school were abolished, and a lottery system was implemented throughout the country.

In the 1980s, the Education Normalization Measure, made to decisively resolve the problem of excessive tutoring, was to have a decisive influence on expansion of opportunities for higher education. After the measure was introduced, excessive tutoring to enter top universities spread to high-school students, and high-school education accordingly began to focus on university entrance examinations which emphasized rote memorization. This phenomenon was connected to the excessive expenditures for private schooling. Consequently, to further expand the gates to the universities and to help alleviate the need for excessive private tutoring, the government searched for ways to normalize high-school education. All of these measures, accompanied by adequate funding by the government, promoted school education, active involvement of government and encouragement for private sector facilitated fast growth of higher education in Korea.

2. Beginning of the crisis

The immediate cause of the economic crisis was the lack of foreign exchange liquidity. Notwithstanding the fact that from 1994, Korea's international competitiveness had grown weak and its current account deficits were rapidly expanding, foreign capital continued to flow in, causing the devaluation of the won. In addition, short-term foreign capital was introduced primarily from the secondary financial markets, and due to speculative asset operations, including investment in South-East Asian and Russian junk bonds, risks to liquidity in domestic financial markets were incurred. Under these circumstances, the Asian crisis, beginning in Thailand, caused a crash in the Hong Kong securities market, which led to a movement for recall of short-term loans centred on small and medium-sized Japanese banks. Moreover, due to a chain of insolvencies among domestic businesses, credit ratings for domestic businesses, and the country as a whole, experienced a drastic drop, and in the midst of the lowering of Korea's credit level by credit rating agencies, including Moodies, demands for repayment of loans from overseas intensified the dearth of foreign exchange reserves.

The more fundamental causes of the economic crisis were internal (MOEF, 2000; Cho, D.C., 1999; Yoo, S.M., 1999). Over the period of government-led development, close ties between the government and commerce, as well as corruption in the Korean economy, intensified the malfunction of the 'visible hand' in the Korean economy. Input-centred growth of the Korean economy had already reached the stage of diminishing returns. Resource distribution (i.e. loans) had been made depending on the external scale of businesses, rather than on their profitability. Banks provided funding without the ability to properly evaluate loans, inciting careless management practices for businesses. Consequently, financial institutions experienced lowered profitability, and were forced to make enormous efforts through speculative transactions in the short-term overseas capital market. In addition, the government seemed to resolve insolvencies for large businesses using political reasoning, rather than market reasoning, further inciting moral hazards in the economy.

The most critical feature during the crisis was massive lay-offs. The unemployment rate skyrocketed to 6.81 per cent in 1998, which is about three times higher than other 1990s' figures: 2.01-2.77 per cent, and 1.6 per cent points higher than the former highest rate of the 1980s: 5.2 per cent. Moreover, the economic activity participation rate fell to 60.68 per cent in 1998 from 62.17 per cent in 1997, meaning much unemployment. It can be inferred, if we consider the fall of the economic activity rate, that the actual rates of unemployment were under-evaluated in 1998 and 1999 and it could be said to be over 7 per cent, maybe near 9 per cent.

The severe problem arising from massive lay-offs during the crisis was the increase of the educated unemployed. *Table 2* shows the highest increased or the least decreased unemployment rates in each year in each age group. As seen in the table, middle-school graduates showed the largest increase in unemployment during the economic crisis, followed by high-school graduates, and elementary-school graduates. Accordingly, when looking only at the unemployment statistics, one can conclude that persons with lower education, particularly middle-school graduates, felt the brunt of the effects of the economic crisis. But as students are older and time goes by, two-year college and university graduates are the most unemployed. Especially in 1999, with age groups above 30, higher-educated persons are the most unemployed.

Table 2. Growth in unemployment rates by age and educational attainment

(%, point)

Age	Year	Average	Elementary school and under	Middle school	High school	Higher education	2-year college	University
All ages	1997	0.6	0.2	0.6	0.8	0.4	-0.1	0.5
	1998	4.2	3.2	5.6	4.9	2.7	4.8	2.1
	1999	-0.5	-0.3	-0.9	-0.6	-0.4	-0.8	-0.4
15-19	1997	2.4	1.4	2.4	2.8	0.0	0.0	0.0
	1998	11.0	18.2	9.8	10.9	0.0	0.0	0.0
	1999	-1.2	3.5	-1.5	-1.2	0.0	0.0	0.0
20-24	1997	1.3	-3.2	0.4	1.5	0.8	0.9	0.8
	1998	7.6	16.3	8.2	7.9	6.3	7.2	5.2
	1999	-2.0	7.8	-3.7	-1.6	-3.0	-3.3	-2.1
25-29	1997	0.7	3.4	0.9	0.9	0.5	-0.3	1.0
	1998	5.2	6.6	11.0	5.9	3.3	4.4	2.7
	1999	-0.8	3.6	-3.4	-0.6	-0.5	-0.2	-0.7
30-39	1997	0.5	0.6	0.9	0.5	0.2	0.3	0.2
	1998	3.8	7.0	5.8	4.1	2.4	3.5	2.1
	1999	-0.4	-1.9	-0.7	-0.3	-0.3	-0.2	-0.3
40-49	1997	0.4	0.3	0.5	0.6	-0.2	0.4	0.0
	1998	4.0	4.5	5.3	3.8	2.3	4.4	1.7
	1999	-0.3	-1.0	-0.7	-0.3	0.6	1.7	0.4
50-59	1997	0.4	0.2	0.3	0.6	0.9	0.0	1.1
	1998	3.9	3.4	4.9	4.6	2.5	3.7	2.3
	1999	0.0	0.2	-0.7	-0.3	0.2	-0.5	0.6

* Note: Calculated from the data of www.nso.go.kr

Economic participation dropped most severely for graduates of two- and four-year colleges in almost all age groups, especially in 1998 and 1999. Considering that economically inactivated persons usually mean the disappointed unemployed or structurally unemployed, the educated class was severely hit with the economic crisis.

Mass lay-offs and recession caused significant changes in the state of domestic life. The percentage of unemployed households increased by 4.7 per cent between 1997 and 1998. This probably resulted from the fact that most of them were headed by industrial workers (3.65 point reduction). Consequently, one can infer that the crisis had more direct influence on industrial households than on administrative workers or the self-employed. On the other hand, the percentage of unemployed households increased by 1.09 points between 1998 and 1999. During this time, the number of industrial households and the self-employed increased, while unemployment for administrative workers decreased markedly by 1.69 per cent. Entering 1999, the unemployment rate declined more than 0.5 points, and judging from the macroeconomic indexes, including the growth rate, it seems that the state of the economy began to improve. However, the IMF period continued to make its influence felt, and this time administrative workers, rather than industrial workers, bore the brunt of its effects. Average household income fell approximately 11 per cent in 1998, and while it rose 7 per cent in 1999, this still failed to meet the standards of living enjoyed prior to the arrival of the IMF. Factors in the structure of income inequalities were a blow to the middle class.

The worsening of the economic situation after the economic crisis caused not only a reduction in household income, but also exacerbated inequalities in income. In 1999 Gini coefficients, which increased to 0.2937 from 0.2888 in 1998, actually showed a worsened distribution structure, even though there was the belief that the crisis had passed.

The examination of income group also showed the worsened distribution. The share of the top 20 per cent in total worker revenue gradually increased, while the others saw their share decrease. As for the rate of increase in nominal income for each class, only the top 20 per cent increased continuously by 2.37 per cent in 1998. The lower classes, on the other hand, suffered a correspondingly larger decrease in income as income contractions increased in 1998. In accordance with the economic recovery of 1999, the income for the top 20 per cent reached a peak, increasing by 8.77 per cent, while the bottom 20 per cent, compared with the 8.72 per cent decrease in income for 1998, experienced the smallest increase in income at 5.56 per cent.

Examining the rate of increase in educational expenditures, while other classes reduced their educational expenditures from 6 per cent to more than 20 per cent, the top 20 per cent increased their educational expenditures in 1998 by 1.49 per cent from 1997. Among total household expenditures on education in 1998, only the top 20 per cent increased their share by 0.84 points, while the other classes reduced their share by 0.02-0.5 percentage points.

3. Public policy response to overcome the crisis

The government's first step in overcoming the economic crisis was to seek foreign exchange loans from international organizations, including the IMF. The launch of a new government along with the introduction of 35 billion dollars in loans from the IMF was an attempt to resolve the dearth of foreign exchange reserves. Along with this, an agreement was made to roll over maturation for a total of 23 billion dollars in short-term foreign loans from financial institutions. In addition, through tight financial policies and an increase in interest rates, as well as policies designed to attract foreign investment and policies designed to control speculation in foreign exchange, useable foreign exchange reserves expanded from 39 billion dollars at the end of 1997, to 846 billion dollars as of the end of February 2000, and the exchange rate stabilized as well. The country pursued a strategy of restructuring and liberalization in order to improve economic fundamentals, including promotion of soundness for financial institutions and businesses (after the end of 1997, 16.5 per cent of financial institutions were declared insolvent), assurance of flexibility from the labour market, promotion of efficiency in public institutions, and relaxation of capital controls. Armed with the determination to overcome the crisis, Korea's economic situation rapidly improved.

4. Impact of the crisis on higher education

The share of educational expenses borne by the government in the GNP was at 4.0 per cent prior to the crisis. During the crisis, the share declined, and it is unlikely that it will be maintained at 4.0 per cent. In other words, education expenditures, which had never exceeded 3 per cent of GNP until 1990, rose to 4.0 per cent in 1997, only to fall during the crisis to 3.6 per cent as of 1999. Immediately after the crisis began, Korea experienced a presidential election. During the election, all presidential candidates pledged to raise spending on education to 5 per cent of GNP, and the current government likewise made the same promises. However, the decline in total production due to the economic crisis made this pledge impossible to realize. The share occupied by educational expenditures in the government's budget also declined, while the share occupied by education reached 24.0 per cent prior to the crisis, then 20 per cent in 1999.

Universities themselves experienced serious financial difficulties during the economic crisis. The crisis was especially severe for private universities, as they depend primarily on tuition from students as the main source of financing their operations. In 1998, total liabilities for 141 private four-year universities throughout the country, including 1.4 trillion won in advance payments, reached 2.47 trillion won. Average liabilities for each university totalled 1.755 billion won. This amounts to more than double the 990 billion won provided by the government to support university education.

During the financial crisis, universities experienced an unprecedented number of insolvencies. For example, 'D' university, a mid-sized private university located in the Seoul area, had a 217 per cent corporate debt ratio in 1996. Its financial situation was weak, with short-term liquid assets constituting 1.6 per cent of total financing. This weak financial situation was directly connected to the resultant insolvency immediately after the arrival of the IMF. During the crisis, many private universities faced insolvency due to the reckless expansion of facilities, including the establishment of medical schools, from the early 1990s. During the IMF period, various factors, including leases or loans of medical equipment, increased foreign exchange losses, while the drop in the number of students and the increase in the number of unregistered students caused a contraction in university financing. Combined with the decrease in revenues for university hospitals during the crisis, many universities began to experience an insolvency crisis.

Korea is entering a new phase in its expansion of the higher education sector. Estimates indicate that if Korea maintains its current admissions quota after 2003, admissions capacity will exceed the number of graduates, causing the universities to compete fiercely for students. Consequently, Korea's higher education is now perceived to need policies that respond to changing social demand and increase the quality of higher education, rather than policies that simply

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2. The 'Brain Korea 21' (BK21) project has several purposes: to develop world-class research universities, foster the creation of human resources through graduate schools, nurture quality regional universities, and reform higher education. To accomplish these, the government planned to invest 1.4 trillion won (about US $1.2 billion) into higher education over the next seven years. Around 75 per cent of the budget will be invested in supporting graduate schools in certain fields in the natural and applied sciences, humanities, and social sciences. The final goal of BK is to develop selected graduated schools and universities into world-class research universities in the near future. The project operates on the principle of 'Selection and Concentration'. All universities involved in the project must establish a research consortium of collaborative networks among competent university researchers. Each research consortium consists of one leading university and one or more participating universities. The government provides financial resources to selected consortia.

encourage quantitative growth. Likewise, since the end of 1999, the government has been pursuing its 'Brain Korea 21'[2] project to satisfy this need, by creating a graduate school-centred university system that exceeds international standards.

Table 3 depicts changes in the number of applicants for higher education before/during the financial crisis according to category, number admitted, number of registered students and number of schools, and number of professors. As *Table 3* illustrates, two-year colleges experienced a slight decrease in the number of applicants during the financial crisis, while four-year colleges experienced a massive increase in applicants. Two-year colleges and teachers' colleges experienced an increase in admissions, while admissions for four-year universities, which experienced a large increase in applicants in 1999 compared to the two previous years, actually dropped. Consequently, it can be concluded that four-year universities were much more influenced by the financial crisis than two-year colleges. In this light, it is difficult to conclude that demand for higher education was reduced due to the financial crisis, seeing that the number of applicants increased in all types of higher education institutions. From 1997 to 1999, two-year colleges received the most increase in their share of registered students, followed by four-year colleges, and open universities. The number of professors, on the other hand, fell in all categories. This was probably due to the inability to make new loans for faculty as a result of financial difficulties.

Table 3. Expansion of higher education before/during the crisis

	Before crisis				During the crisis		
	1970	1980	1990	1996	1997	1998	1999
Applicants/Admission							
Junior college	3,358/	155,964/	378,384/				
	1,916	80,620	130,670	1,227,003/ 252,868	1,524,488/ 276,231	1,525,716/ 304,637	1,471,641/ 319,278
University of Education	9,200/ 5,882	18,391/ 4,680	6,574/ 3,220	17,304/ 2,277	16,399/ 4,246	22,916/ 4,653	21,851/ 4,840
College and University	89,472/	397,343/	904,306/	1,204,371/ 271,208	1,283,071/ 295,739	1,373,693/ 312,293	1,620,615/ 306,802
	35,653	116,700	196,397				
Growth in enrolment							
Junior college	40,537	174,476	323,825	642,697	724,741 (1.00)	801,681 (1.10)	859,547 (1.19)
	(1.00)	(4.30)	(7.98)	(15.85)			
					20,948 (1.00)	20,969 (1.00)	21,323 (1.02)
University of Education	12,190	9,425	15,960	20,439			
					1,368,461 1 (1.00)	1,477,715 5 (1.00)	1,587,667 7 (1.16)
College and University	136,414 4	402,979 (2.95)	1,040,166 6	1,287,31 5			
Air and Correspondence	(1.00)		(7.62)	(9.44)	370,879 (1.00)	314,438 (0.85)	316,365 (0.85)
University	-	32,053	148,650	215,788			
					141,099 (1.00)	146,563 (1.04)	158,444 (1,12)
					13,248	9,597	6,126
Open University	-	-	-	-			
					(1.00)	(0.72)	(0.46)
Miscellaneous school	2,709	4,058	23,947	14,828			
Institutions							
Junior college	56 (1.00)	139 (2.48)	117 (2.09)	152 (2.71)	155 (1.00)		
						158 (1.02)	161 (1.04)
University of Education	16	11	11	11	11 (1.00)	11 (1.00)	11 (1.00)
College and University	71 (1.00)	85 (1.19)	118 (1.66)	145 (2.04)	150 (1.00)	156 (1.04)	158 (1.05)
Air and Correspondence	-	1	1	1	1	1 (1.00)	1 (1.00)
University	-	(12)	(12)	(12)	(1.00)		
Open University	-	-	-	-	19 (1.00)	18	19

Miscellaneous school	16	12	23	20	10 (1.00)	(0.95) 6 (0.60)	(1.00) 4 (0.40)
Teachers							
Junior college	1,637 (1.00)	5,488 (3.35)	7,382 (4.51)	11,515 (7.03)	12,468 (1.00)	10,926 (0.88)	11,381 (0.91)
University of Education	660	564	694	786	814 (1.00)	693 (0.85)	708 (0.88)
College and University	7,779 (1.00)	14,458 (1.86)	33,340 (4.28)	49,368 (6.34)	53,300 (1.00)	40,345 (0.76)	41,226 (0.77)
Air and Correspondence University	-	-	136	168	116 (1.00)	112 (0.97)	109 (0.94)
Open University	-	-	-	-	2,248 (1.00)	2,019 (0.90)	2,252 (1.00)
Miscellaneous school	194	152	504	408	161 (1.00)	90 (0.56)	42 (0.26)

Source: MOE. Educational Statistical Yearbook. Each year.

Table 4 exhibits changes among four-year university students during the financial crisis. As the table illustrates, while the number of students taking leave for more than one semester, the number of registered students, and the number of transfer students increased during the crisis, the number of students re-enrolling decreased. The reason for this probably lies in the fact that while students taking leave traditionally do so to perform their military service or to enter a better university, many students were leaving because they were unable to pay tuition due to the increase in unemployed households.

The number of foreign students increased greatly during the economic crisis, from 2,194 in 1997 to 2,985 in 1998, to 3,409 in 1999. This was most probably a result of easier conditions for foreign students due to the drop in the value of the won following the crisis. On the other hand, the number of students receiving financial support from the government for studying abroad decreased from 53 in 1998, to 39 in 1999. Furthermore, while the number of foreign students invited to Korea on government scholarships reached 70 in 1997, this number decreased to only 45 in 1998.

Table 4. Changes in students in higher education before/during the crisis

	Before crisis				During the crisis		
	1970	1980	1990	1996	1997	1998	1999
Total	38,678	74,018	285,428	388,619	431,222	566,188	635,427
National-public	5,609	16,720	72,394	92,740	106,214	136,726	139,032
Private	33,069	57,298	213,034	295,879	325,008	429,462	496,395
Absentees for a semester or more	12,555	33,431	145,443	207,842	223,760	298,838	340,933
National-public	2,618	9,188	39,272	48,170	58,111	75,396	76,272
Private	9,937	24,293	106,171	159,672	165,649	223,442	264,661
Reinstated to school	8,452	1,847	119,149	138,406	137,447	179,568	177,341
National-public	1,528	642	29,070	38,588	39,587	50,640	48,866
Private	6,924	1,205	90,079	99,818	97,860	128,928	128,475
Removed from the register	8,047	5,872	15,277	26,203	33,062	42,615	61,031
National-public	1,031	951	2,917	4,412	5,694	7,004	9,630
Private	7,016	4,921	12,360	21,791	27,458	35,611	51,401
Returned to original register	4,320	2,492	2,391	1,897	2,373	2,890	2,789
National-public	188	398	995	305	453	462	530
Private	4,229	9,173	1,396	1,592	1,920	2,428	2,259
Transferred in	4,427	9,571	3,066	3,928	2,233	3,079	3,584
National-public	188	398	140	1,265	25,686	36,047	46,614
Private	4,229	9,173	2,926	2,663	27,919	39,126	50,208
Transferred out	877	755	102	343	6,661	3,151	3,125
National-public	46	34	-	-	126	145	140
Private	831	721	102	343	6,535	3.006	2,985

Note: Case for the four-year universities.
Source: MOE.KEDI (1999). Educational Statistical Yearbook.

5. Reform policy measures for overcoming the crisis

A close scrutiny of government policies and changes within the two universities – as part of the case study – indicates the policy measures in operation in Korea at the more administrative levels during the crisis period. Hit with an economic crisis, Korea's universities and the government made attempts to alleviate their situation through the adoption of various measures.

(a) Restructuring

As the domestic economic crisis ensued, 'restructuring' became a fashionable buzzword throughout Korean society. Universities were no exception. The arrival of the IMF was even regarded as a partially positive event in that it provided an opportunity both for self-examination, and for redress of some of the lax university management practices that had predominated prior to its arrival. Continuous quantitative expansion policies after liberation had resulted in Korea achieving international educational standards in terms of enrolment rates. Moreover, the possibility of universities failing had been previously unimaginable, and when the number of applicants always exceeded the admissions quota, universities made relatively little attempt to secure students.[3] However, universities are now faced with a financial crisis, and if they fail to specialize or diversify, it is now possible for universities to fail. In this light, a management mindset has now become recognized in university operations, and a consciousness of the need for restructuring has become prevalent. Universities are now unable to avoid restructuring in various areas. First, they have abolished assignment, and have abandoned the firm university administration structure, while introducing management reforms such as team operations systems,

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3. However, it is unlikely that universities will be able to enjoy such excessive demand after 2003. All things considered, should the admissions quota remain the same, by 2003 the number of places available for students will exceed the number of graduating students. In 2003, the number of places for students is forecast at 71, while the number of applicants will be only 63. For each university to secure students, they will have to compete much more vigorously than they do today. Should they fail to provide education based on consumer preferences, they will undoubtedly experience severe difficulties in securing an adequate number of students. Regional universities are bound to experience more difficulties as Korea's well-known universities are still concentrated in the capital area. Regional universities that do not introduce specialized strategies for their survival are likely to have the most difficulty in securing students.

and performing restructuring activities like stopping new hiring and freezing wages.

(b) Freezing of tuition

In order to reduce the burden for students from middle-class households, universities have frozen tuition increases. The following *Table 5* illustrates the average rate of increase in university tuition during the crisis. As the table illustrates, most of the universities froze tuition increases during the crisis. Prior to the IMF measures, tuition increases, which had exceeded 10 per cent annually, dropped to 6.7 per cent for public universities and 5.0 per cent for private universities in 1997. Moreover, in 1998, tuition nearly froze, with a 0.8 per cent increase for public universities and a 0.5 per cent increase for private universities. The following year, public universities increased tuition by 1.3 per cent, and private universities increased tuition by 0.1 per cent. Consequently, one can perceive difficulties for the middle class due to the IMF measures, as well as a trend for private universities to receive less pressure for tuition hikes than public universities.

Table 5. Average growth rate of tuition fee for higher education during crisis

AGR	1995	1997	1998	1999
National	14.6	6.7	0.5	0.1
Private	11.2	5.0	0.8	1.3

Source: MOE. 1999.

(c) Activation of the intern system

During the economic crisis, businesses also stopped hiring new college graduates due to their increasingly severe capitalization difficulties, with most resorting to the intern system. This intern system consists of hiring employees for a limited term with the government's assistance. During this term, a low salary of 500-800,000 won is provided for the prospective employee, and after the conclusion of the intern period, about half of the employees are formally hired. Unemployment, however, must be prevented for the remaining students. Unfortunately, due to strong preference for interns that had graduated from so-called top schools, graduates of second tier and regional universities had many limitations in finding opportunities for employment. Accordingly, in February of 1999, among the approximately 180 four-year universities in the country, only 20 to 30 universities exhibited a net employment rate above 30 per cent, while regional universities did not even reach 10 per cent employment. As the employment situation grew increasingly worse, the number of students opting to join the military or enter graduate school increased. There was also a sizeable increase in people who were voluntarily unemployed while preparing for accounting or civil service examinations, who opted out of their unstable immediate employment for a stable, specialized career with long-term prospects.

(d) Expansion of financing for scholarships

The government also expanded the financing system for scholarships and loans for university and graduate students who were children of unemployed persons and students with difficult domestic circumstances, as well as for the unemployed. Kookmin Bank, and regional banks, implemented a system that loaned the full amount of tuition for students that came from difficult home environments, and lent up to 1 million won per person in scholarship money at no interest to university students, including two-year college students, giving particular attention to students from fishing villages. In order to create a scholarship financing system, financial institutions, with government support, cut 4.75 per cent from the original interest rate of 11 per cent, requiring payment of only 6.75 per cent interest. Short-term financing required repayment within one year of financing, while long-term payment required payment in instalments over five years after graduation. However, for students who entered the military after graduation, or who were unable to find employment, provisions were made so repayment could be delayed two-three years according to circumstances.

(e) Special admissions for returning students

In order to absorb the influx of overseas students returning to Korea due to inability to pay tuition, the government encouraged operation of a special admissions and transfer admissions system. In the first half of 1998, the number of returning students numbered some 2,600. The system was arranged so that students returning with more than two years of high-school education could apply for admission as first-year students; students returning from overseas' two-year colleges, could apply as second-year transfer students and returning students with more than two years of education in overseas universities could apply as third-year transfer students. Most of the universities applied the traditional application process, including review of records, interviews, and oral tests, while some also administered English and Korean language tests. The government has indicated that this system will have effect until the year 2001.

(f) Provision of re-education opportunities for the unemployed and their children

A number of universities prepared and implemented job-training programmes, both for those that were unemployed due to the economic crisis and their children. The government initiated this programme and provided financial and administrative support to universities that operated this process.

6. An assessment of the crisis and its impact on education

The economic crisis had profound effects on the structure of the economy, and on society as well. These effects are as follows. First, mass lay-offs occurred from the advent of the crisis, and these included highly educated workers. Second, the economic crisis severely affected the middle classes and administrative workers. Third, the crisis worsened inequalities in Korea's income and distribution structure. Fourth, the economic crisis proved to be an opportunity to confirm problems in the quality and structure of Korea's economy. Fifth, the crisis was not merely an economic phenomenon, but incited movements for reform throughout the Korean economy. Social condemnation of excessive consumption ensued throughout the economy, while most organizations became aware of their careless management practices and their bloated organizations, and made vigorous attempts to fix them.

The crisis also had a profound influence on education. Individuals as well as the country as a whole had to reduce expenditures for education, and these reductions in expenditures exerted a negative influence on Korea's human capital. In particular, the influence of the crisis on higher education was much more severe than on elementary and middle-school education. With the dependence on private education, and the lack of a solid safety net for higher education, the approaching economic crisis had numerous effects on Korea's universities. These effects are as follows.

First, the economic crisis did not have a greater effect than anticipated on the social demand for higher education. Second, the economic crisis had influence on the decisions of many to continue their education. In fact many delayed their studies. Third, financial difficulties experienced by the universities due to the economic crisis were more severe than at any previous time. Fourth, the economic crisis brought on bold downsizing of personnel in the universities. Last, the recognition of downsizing and the recognition of quality improvements in university education proved to be an opportunity for universities to re-evaluate their responsibilities.

The crisis has given an opportunity to rethink the system of financing higher education. First, there is a need for stability in university financing. If universities continue to rely on tuition for the bulk of their financing, similar problems are bound to occur with the next outside crisis. Second, even with operations under a 'for beneficiaries' principle, the government must provide indirect and long-term support so that university education can be completed. Third, a systematic apparatus needs to be developed so that universities can be smoothly disbanded. Fourth, market economy theories that became prevalent after the crisis have caused an increase in interest and investment into practical fields that benefit university competitiveness, i.e. science and engineering. Fifth, diversification of the functions and roles of higher education is needed. It is important to support more finance for the research-oriented universities. The government-funded investment projects for the research universities (BK 21 project) should be monitored annually through professional evaluation councils. Finally, it is important that the university education market be internationalized. If the universities retain the same number of places for students, many universities will be unable to fill their admission quotas, and this phenomenon is already occurring in the regional universities.

The crisis shows that the need is felt for public action in higher education. Market forces alone may not be able to steer the system during a crisis period. Therefore, strong regulatory mechanisms to protect private universities from becoming bankrupt, and financial support to all universities during the crisis period are essential. Equally important is the continuation of student-support systems. In many instances drop-outs and/or the decision to delay studies of those enrolled are very common. Some of the student-support measures adopted by the Korean Government helped reduce the phenomenon of student drop-out from universities.

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IV. IMPACT OF THE ECONOMIC CRISIS ON HIGHER EDUCATION IN MALAYSIA

by Arif Hassan*

1. Introduction

Malaysia has consistently demonstrated spectacular growth during the past four decades. The development policies followed by the country ensured growth with social justice: reducing the gap between rich and poor and building up human capital with high investment in the social and education sectors. Economic and social policies of the government were developed against the backdrop of political stability, high rate of employment, social peace, and high household savings. In order to infuse efficiency and increase productivity, economic policies of the country favoured privatization and reduction in public expenditure as a share of GDP.

The recent economic crisis, initially known as a currency crisis, emerged in July 1997, and its effect was confirmed in subsequent years until the economy demonstrated a turnaround during 2000. According to some observers, both the emergence of and recovery from this financial crisis were quite surprising, the causes of which are still to be completely ascertained. That it could make the nation vulnerable to market risks was, however, best appreciated during the recent financial crisis. The crisis affected social-sector programmes, among others, including education. The rise in unemployment and the loss of money experienced by middle-income groups, due to a steep fall in share prices, led to a sharp decline in household income. It had, in turn, an adverse impact on the demand for post-compulsory education. Since middle-income groups were traditionally clientele for higher education and because they were the most adversely affected, the demand for higher education was obviously to decrease as a result (Lee, 1999).

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This paper briefly reviews the growth of the Malaysian economy throughout recent decades, and examines both strategies and focus adopted by the government with a view to attaining developmental objectives. It also attempts to understand the nature and impact of the recent financial crisis. The way in which the crisis affected the country's education, and in particular the higher education scenario, is examined in this context. Finally, we will identify some issues that emanate from national goals and developmental strategies adopted by the government in the area of tertiary education, future challenges that emerge, and the knowledge that has come from the recent financial crisis.

2. Development and changes in the Malaysian economy

Malaysia is one of the fastest developing nations of the world. Several decades of both sustained economic growth and political stability have made it one of the most buoyant and wealthy countries in the East Asian region. Though political power and economic clout are still traditionally divided along racial lines, Malaysia has moved towards a pluralist culture based on a vibrant and interesting fusion of Malay, Chinese, Indian and indigenous cultures and customs.

The policies followed by the government helped achieve 25 economic and social objectives. The development strategy of the government outlined perspective plans which were drawn for long duration. Between 1971 and 1990, the Malaysian economy was governed by the New Economic Policy (NEP), as contained in the First Outline Perspective Plan 1971-1990 (OPP 1). The Second Outline Perspective

Plan (OPP 2), covering the period between 1991 and 2000 was based on the National Development Policy (NDP). Another policy document entitled 'Vision 2020' was released in 1991 reflecting the vision of a fully developed and industrialized Malaysia by the year 2020. Although the three documents vary in terms of both time-frame and focus, the objectives remain the same. Together, they aim to establish a progressive, prosperous and united Malaysia. Achieving national unity through more equitable distribution of economic gains and bridging the racial imbalance on economic status were the constant concerns.

Malaysia experienced several years of rapid economic growth, and this growth resulted in a low rate of inflation, rising per capita income and reduction in the incidence of poverty. The country achieved a real Gross Domestic Product (GDP) growth of 8.5 per cent during 1991-1997, with per capita income increasing twofold in terms of US dollars by 1997, and the incidence of poverty falling from 16.5 to 6.1 per cent. Consequently, the standard of living of all Malaysians improved. The growth also made a very impressive impact on the health and educational status of Malaysians in general (see *Tables 1 and 2*). The child mortality rate (under age five), for instance, which was 42 per 1,000 children of that age group in 1980, fell to 14 in 1997. Life expectancy stood at 70 and 75 years for males and females respectively and the percentage of literate male and female adults rose to 90 and 79 per cent respectively. During 1992-1997 the incidence of child malnutrition was 20 per cent of the total children under age five. These figures were, comparatively, much better when compared to several East Asian countries, and the world in general (World Bank). For instance, the average of all the countries included in the World Bank Report indicated that the under-five mortality rate in 1997 was 79 per 1,000. Life expectancy at birth was 65 and 69 years for males and females respectively and the percentage of adult literacy was 88 and 67 respectively for males and females.

Table 1. Malaysia: some vital statistics

	Year	
Population	2000	22,202,814
Population density	1998	68
Share of urban population in percentages	1980	42
	1998	56
Child malnutrition (under age 5) per 1 000	1992-7	20
Child mortality rate (under age 5) per 1 000	1980	42
	1997	14
Life expectancy at birth (Male)	2000	70.2 years
(Female)		75 years
Crude birth rate (per 1 000)	2000	24.5
Crude death rate (per 1 000)		4.4
Unemployment rate (percentage of labour force)	1999	3.4
Adult illiteracy (percentage of people above 15) (Male)	1997	10
(Female)		19
Access to sanitation in urban areas	1995	94%
GDP growth rate (1987 prices)	1999	5.8%
	2000 IQtr	11.9%
	II Qtr	8.5%
	III Qtr	7.7%
Per capita GNI (current prices)	1999	RM 12,305

Source: World Bank, http://statistics.gov.my/keystats.html

Table 2. Malaysia: economic performance indicators, 1993-1998

	1993	1994	1995	1996	1997	1998
Labour force (thousand persons)	7,627	7,834	8,257	8,641	9,038	8,881
Employment (thousand persons)	7,498	7,603	8,024	8,417	8 805	8,538
Unemployment (%)	*3.0*	*2.9*	*2.8*	*2.6*	*2.6*	*3.9*
Per capita income (RM at current prices)	8,024	8,996	10,068	11,228	12,051	11,835
Gross national savings (RM million at current prices)	54,534	62,133	73 448	91,572	102,807	108,075
Percentage of GNP	*34.7*	*34.4*	*35.3*	*38.5*	*39.4*	*41.2*
Gross Domestic Product (RM million at current prices)	165,206	190,274	218,671	249 503	275,367	278,724
Gross Domestic Product (RM million at 1978 prices)	100,617	109,976	120,272	130,621	140,684	131,258
Growth rate *(%)*						
Gross Domestic Product	*8.3*	*9.3*	*9.4*	*8.6*	*7.7*	*-6.7*
Agriculture, forestry and fishing	*4.3*	*-1.0*	*1.1*	*2.2*	*1.3*	*-4.0*
Manufacturing	*12.9*	*14.7*	*14.2*	*12.3*	*12.5*	*-10.2*
Mining and quarrying	*-0.5*	*2.5*	*9.0*	*4.5*	*1.0*	*0.8*
Construction	*11.2*	*14.1*	*17.3*	*14.2*	*9.5*	*-24.5*
Services	*9.8*	*9.7*	*9.4*	*9.7*	*8.0*	*1.5*
Gross National Product (RM million at current prices)	156,941	180,862	208,294	237,687	261,094	262,494
Gross National Product (RM million at 1978 prices)	95,291	104,006	113,704	123,166	132,811	124,476
Growth rate *(%)*						
Gross National Product	*8.7*	*9.1*	*9.3*	*8.3*	*7.8*	*-6.3*
Public consumption	*10.7*	*9.9*	*7.3*	*1.4*	*5.3*	*-3.5*
Private consumption	*4.6*	*9.9*	*9.3*	*6.0*	*4.7*	*-12.4*
Public investment	*8.4*	*-0.6*	*8.7*	*1.1*	*8.6*	*-10.0*
Private investment	*19.1*	*27.9*	*25.3*	*13.4*	*8.4*	*-57.8*
Exports	*17.2*	*22.5*	*17.6*	*7.2*	*10.8*	*-0.7*
Imports	*19.1*	*27.7*	*21.4*	*4.2*	*10.2*	*-18.3*

Balance of payments (RM million)						
Merchandise balance	8,231	4,460	97	10,154	11,337	69,322
Services balance	-16,670	-17,005	-19 229	-19,414	-21,792	-23,381
Transfers	513	-2,225	-2,515	-2,936	-3,698	-9,873
Current account	-7,926	-14,770	-21,647	-12,196	-14,153	36,068
Percentage of GNP	*-5.1*	*-8.2*	*-10.4*	*-5.1*	*-5.4*	*13.7*
External trade (RM million)						
Total exports (f.o.b)	121,238	153,921	184,987	197,026	220,890	286,756
Total imports (c.i.f)	117,405	155,921	194,345	197 280	220,936	228,309
Balance of trade	3,833	-2,000	-9,358	-254	-46	58,446
Consumer Price Index (CPI) *(%)*	*3.6*	*3.7*	*3.4*	*3.5*	*2.7*	*5.3*
External debt (RM million)[1]	69,181	76,062	85,014	98,086	170,757	159,775
Debt service ratio *(% of exports)*	*7.1*	*5.5*	*6.6*	*6.9*	*5.5*	*6.7*
Percentage of GNP	*44.1*	*42.1*	*40.8*	*41.3*	*65.4*	*60.9*
Net Bank Negara reserves (RM million)	76,435	68 173	63,770	70,015	59,123	99,424[2]
Months of retained imports	7.8	5.5	4.1	4.4	3.4	5.7

Source: Government of Malaysia, White Paper on Economy, 1999.
Refers to short-, medium- and long-term external loans.
As at 31 December 1998.

There were many favourable features within the Malaysian economy prior to the crisis in 1997. Included was a high growth rate, low inflation (around 3.8 per cent), and a low unemployment rate (2.5 per cent in 1996). Unlike other countries, Malaysia had a relatively low external debt of US$45.2 billion or 42 per cent of the GDP as at June 1997. The debt service ratio was only 6.1 per cent of exports late in 1996. The banking sector was healthy with non-performing loans at only 3.6 per cent of total loans as of June 1997. The nation's saving rate at 38.5 per cent was one of the highest in the world (NEAC, 1998).

The favourable macroeconomic environment within regional economies attracted large capital flows, long- as well as short-term.

While enhancing the rate of economic growth, these capital flows also contributed to the appreciation of asset prices both in terms of property and shares, resulting in general buoyancy over the region's prospects. With the outbreak of the crisis in mid-1997, the perception towards the region changed dramatically.

From the very beginning, education was considered to be a primary tool in the socio-economic restructuring that the NEP sought to accomplish. From 1970 to 1989 primary-school enrolment rose from 90 to 99 per cent of the relevant age group; secondary-school enrolment rose from 28 to 53 per cent; and tertiary-school enrolment from 2 to 6 per cent. In 1970, there were only three degree-granting institutions in Malaysia, with a total enrolment of 8,148. By 1985, the number had increased to nine and their total enrolment to 37,838. In addition, 22,684 students were studying abroad.

3. The nature of the financial crisis of 1997-1998

The financial/currency crisis in South East Asia, including Malaysia, began in Thailand in July 1997. What really caused this crisis is still a matter of debate. There is a view that poor economic fundamentals and policy inconsistencies caused the crisis. Others accredit it to the fact that Asia fell victim to financial panic, where negative sentiment even assumed a self-fulfilling prophecy. According to 'fundamentalists', serious structural problems, regulatory inadequacies and close links between public and private institutions caused the Asian crisis. The 'moral hazard' problems in Asia magnified the financial vulnerability of the region during the process of financial markets liberalization in the 1990s, exposing its fragility vis-à-vis the macroeconomic and financial shocks that occurred in the period between 1995-1997 (Corsetti et al., 1998).

Contrary to the 'fundamentalist' viewpoint, others believe that there was nothing inherently wrong with Asian economics, which have had a long record of good performance and are still robust in many ways, despite the crisis. According to this opinion, the Asian crisis mainly involved a sudden interception in liquidity associated with an arbitrary shift in market confidence, unrelated to economic fundamentals that disrupted capital flows to Asia.

Whatever the reasons, Malaysian currency, as a result of the financial crisis, lost about 40 per cent of its value within six months. A devaluation of 40 per cent is equal to a reduction of per capita income from US$5,000 to US$3,000. In total GDP terms, this amounted to approximately US$40 billion yearly. At the same time, more than US$100 billion disappeared from the stock market. In total, the nation lost about US$140 billion within one year (Mahathir, 1999).

According to the Mid-term Report of the Seventh Malaysia Plan, the real GDP grew by 3.0 per cent per annum, lower than the Plan target of 8.0 per cent for the total Plan period. The slower growth was largely due to severe contraction of the economy in 1998 due to the financial crisis. Prior to this, the Malaysian economy expanded at an average rate of 8.2 per cent per annum during 1996-1997, slightly higher than the Plan target.

Price pressures arising mainly from the depreciation of the currency became apparent towards the end of 1997. The general price level, measured in terms of the Consumer Price Index (CPI), peaked at 6.2 per cent in June 1998.

The Kuala Lumpur Stock Exchange Composite Index (KLSECI) declined in 1997 by 44.9 per cent between 1 July and 31 December. After slight recovery in the first quarter of 1998, the index went down to an 11-year low of 262.70 points on 1 September. The corporate sector was adversely affected by the crisis, reflecting the decline in the number of new companies registered and the increase in the number of closures.

The drastic decline in share prices and value of property had a negative-wealth effect, which severely affected the consumption pattern of Malaysians. Poor performance of the KLSE also seriously constrained the ability of the corporate sector to procure financing from the stock market.

The impact of the crisis on economic growth revealed itself towards the end of 1997, when the GDP began to slow down and registered negative growth from the first quarter of 1998. As a result of the contraction in economic growth, per capita income declined by 1.8 per cent to RM 11,835 in 1998, compared with RM 12,051 in 1997. The contraction in GDP resulted in slow employment growth and an increase in both unemployment and retrenchment. Employment declined in 1998 by 3.0 per cent as compared to positive growth of 4.9 and 4.6 per cent in 1996 and 1997 respectively. The largest decline was in the construction sector at a negative 16.9 per cent, while it was 3.6 per cent negative in the manufacturing sector. The unemployment rate increased from 2.6 per cent in 1997 to 3.9 per cent in 1998.

4. Education expansion in Malaysia

The Government of Malaysia accorded high priority to education and skill training in nation building. During the Sixth and Seventh Plans emphasis was placed on the expansion of school facilities, increasing accessibility and reducing the drop-out rate, so as to increase the enrolment ratio and achieve the objective of universal secondary education. Priority was also given to improving the overall quality of teaching with the supply of better-qualified teachers, innovation in the teaching/learning process, and increased use of computers and multimedia in schools. Secondary Vocational Schools (SVS) were converted into Secondary Technical Schools (STS) in order to increase the number of students in technical education. The total enrolment of students, therefore, in technical and vocational streams increased from 36,790 in 1995 to 40,585 in 1998. In order to provide opportunities for students in secondary schools to study engineering technology and engineering drawing, these subjects were also introduced in selected secondary schools. This move was intended to interest and familiarize students with technical subjects and to prepare them for the continuation of their studies in various science and technology-related courses at the tertiary level. For instance, expenditure on education in the federal government's overall development expenditures was well over 20 per cent between 1993 and 1997.

Expansion programmes resulted in an increase in enrolment at all levels of education. *Table 3* presents enrolment at different levels during the years 1995-2000. Enrolment in pre-school centres increased from 253,675 in 1995 to 281,397 in 1998 and 399,980 in 2000. Similarly, at primary-school level it increased from 2.80 million in 1995 to 2.89 million in 1998 and 2.94 million in 2000. Capacity expansion programmes led to better facilities in schools, for instance improved class/classroom ratios. Enrolment at the secondary level in government and government-aided schools increased by 23.1 per cent – from approximately 1.3 million in 1990 to 1.6 million in 1995, 1.7 million in 1998 and 1.86 million in 2000. Due to special emphasis placed on science education, enrolment in this stream increased from 19.8 per cent in 1995 to 25.7 per cent in 1998.

Table 3. Student enrolment in local public institutions (1995-2000)

Level of education	Enrolment						Increase	
	1995	%	1998	%	2000	%	1996-1998	1999-2000
Pre-school	253,675	5.1	281,397	5.3	399,980	7.1	10.9	42.1
Primary	2,799,359	56.6	2,894,137	55.0	2,941,103	52.5	3.4	1.6
Lower secondary	1,124,910	22.8	1,166,794	22.2	1,217,383	21.7	3.7	4.3
Upper secondary	502,964	10.2	571,811	10.9	644,610	11.5	13.7	12.7
Post secondary	80,080	1.6	82,108	1.6	86,995	1.6	2.5	6.0
Teacher education (Non-graduates)	35,410	0.7	20,760	0.4	14,460	0.3	-41.4	-30.3
Certificate	13,556	0.3	15,400	0.3	18,767	0.3	13.6	21.9
Diploma	46,480	0.9	68,437	1.3	81,291	1.4	47.2	18.9
Degree	87,891	1.8	155,272	3.0	199,601	3.6	76.7	28.5
Total	4,944,325	100.0	5,256,116	100.0	5,604,190	100.0		

Source: Government of Malaysia, Mid-term review of Seventh Malaysia Plan.

In order to meet the manpower requirements of a rapidly growing economy, tertiary education in the Sixth Plan period was directed at increasing enrolment – particularly in science, medicine, engineering and technical-related courses. Efforts were undertaken to increase intake into local public institutions of higher learning by expanding physical facilities in existing campuses and establishing new universities. The Seventh Plan extended the effort and undertook to develop higher education as an export industry. Thus teaching of English as a second language was emphasized, which included establishing English language centres in public and private institutions so that foreign students could pursue language proficiency courses in the country. It was expected that demand for places in local universities would increase due to the higher cost of education abroad. During the Seventh Plan, therefore, and particularly between 1998 and 2000, vigorous efforts were made to expand the physical facilities at local public institutions. Private institutions were also encouraged to play a much bigger role in promoting higher education within the country.

Between 1995 and 1998, enrolment of students at first degree-level institutions increased from 79,014 to 136,689, 60,036 and 83,837 respectively for certificate and diploma courses (see *Table 4*). The increase was due to the expansion programme undertaken by various institutions, such as ITM and polytechnics. For the year 2001-2002 the Ministry of Education has recently announced that 38,000 places are available for first-degree courses, which will meet the needs of nearly 90 per cent of the students who will request admission this year (*New Straits Times*, 15 December, 2000).

During the period 1995-1998, a sizeable number of Malaysian students went abroad for higher studies. In 1995, an estimated 50,600 Malaysian students – or 20 per cent of the students in tertiary education – were enrolled in various institutions overseas. Of this total, about 20,000, or 39.5 per cent, were government-sponsored. Among these, 18,300 were first-degree students, of whom 59.8 per cent pursued science, medicine, engineering, and technical-related courses.

The government had set an enrolment target of 20,000 first-degree students by the year 2000 for seven established universities, of which two have already attained the target. During the Seventh Plan period, special efforts were made to strengthen research and development capabilities of tertiary education with the Science and Technology Human Resources Fund (STHRF) of RM 300 million.

Private sector in higher education

Private-sector participation in tertiary education increased with the implementation of the Private Higher Educational Institutions Act, 1996. In addition to three private institutions offering degree-level courses, 10 others were allowed to conduct and confer foreign degrees locally through full twinning programmes. Combined enrolment in certificate, diploma and degree-level courses in private institutions thus increased from 127,600 in 1995 to 150,900 in 1998. The National Accreditation Board (LAN) and the Department of Private Education under the Ministry of Education, ensure the quality standard of these institutions.

During the Sixth Plan period, two medical colleges were established by the private sector to provide degree courses. In addition, certain public corporations such as Tenaga Nasional Berhad (TNB – electricity company) and Telkom Malaysi Berhad (TMB – telecommunication company) set up their universities with a focus on courses in engineering and information technology. The government also encouraged and assisted these private institutions to attract more foreign students, which resulted in approximately 12,000 foreign students coming to these institutions in 1999, which was nearly 10 per cent of the total students registered for different courses in such institutions (Murray, 1999). This development was quite in line with the government-backed goal of making the country a regional education centre. To promote these private colleges, the Ministry of Education organized several road shows to Indonesia, Thailand, Brunei and China. It was expected that foreign students would bring foreign exchange with them, which could ease the country's services deficit, which amounted to 23 billion ringitts in 1998, or 8.9 per cent of GDP.

During the Seventh Plan period of 1996-2000 the efforts of expansion of physical facilities and improvement in quality of education at different levels continued. At the degree level, greater efforts were made to increase enrolment, particularly in science and technical courses, and the role of the private sector accelerated.

5. The impact of the economic crisis on higher education

During the initial phase of the crisis, macroeconomic policies of the government focused on addressing key areas of vulnerability. This included containing inflation and excess domestic demand, manifested by rapid credit growth and the current account deficit in the balance of payments. Maintaining the standard of living and export competitiveness were key priorities. Policies towards the financial sector were intended to strengthen its resilience and avoid systemic risk. Improving the level of productivity measured in terms of Total Factor Productivity (TFP) was yet another important issue. TFP refers to the additional output generated through enhancement in efficiency resulting from improvement in the skill and education of workers, innovation in existent technology etc. The contribution of TFP to GDP growth was reported as lower during 1996-1997 at 19.5 per cent, compared to 28.7 per cent during the Sixth Plan period (Mid-term Review of Seventh Malaysia Plan, 1999).

Amidst deteriorating economic conditions, the National Economic Action Council (NEAC) was established to make concrete recommendations to the government to arrest the worsening economic situation and revitalize the economy. After great deliberation the council prepared the National Economic Recovery Plan (NERP). The NERP was launched on 23 July, 1998 and its recommendations are now at various stages of implementation. In addition, new measures were introduced to address specific problems, while some existing policies were fine-tuned. These interventions now show positive results and signs of recovery are quickly emerging.

The economic crisis of 1997-1998 had significant impact, particularly on the middle class. This class lost a substantial amount of its wealth with the collapse of the stock market. The depreciation of the currency from RM 2.50 per US dollar (pre-crisis exchange rate) to RM 3.80 per dollar as pegged by the Malaysian Government, reduced the Malaysian per capita income from US$5,000 to 3,000. The currency depreciation affected the capacity to pursue education abroad, particularly with regard to ***Bumiputera*** students who benefited largely from generous financial support from government and the corporate sector. These aids were either stopped or reduced drastically. More students in general were forced to pursue their education locally because of the sharp increase in the cost of education abroad. It declined to 16.1 and 17.1 per cent respectively during 1998 and 1999 – crisis years for the country.

It was reported that it became difficult for middle-class parents to send their children abroad for higher education. The Malaysian Government was even forced to reduce the number of overseas scholarships granted to ***Bumiputera*** students. While in 1995 approximately 20,000 students received governmental financial support for overseas education, the number was reduced to only 200 in 1998. According to one newspaper report from Australia, there was an 80 per cent decrease in students' visa applications between May 1997 and May 1998. In 1997, 18,000 Malaysians studied in the United Kingdom, comprising the largest foreign-student population there. However, in 1998 the figure dropped to somewhere between 12,000 and 14,000 (Lee, 1999).

Since less students could leave for overseas studies, pressure on local universities was bound to increase. According to one estimate, student intake in local public universities nearly doubled from 1997 to 1999. It adversely affected the intake of international students in public universities, e.g. the International Islamic University Malaysia (IIUM). Even though 1,800 students (including 13.7 per cent international) were enrolled in undergraduate programmes at the IIUM during 1997-1998, the number rose to 2,629 in the 1998-1999 academic year. However, the percentage of international students dropped to 8.6 per cent (A&R, IIUM, 2000. See: Hassan, 2000 for details).

In 1998, the government implemented a series of austerity measures resulting in a cutback of 18 per cent on operating and developing expenditure at the beginning of the crisis, but which was later reinstated. There was also a drop in university income from other sources such as public and corporate donations, and return on investments from the capital market. This forced universities to freeze financial support to needy students. Public universities were forced to temporarily freeze the library fund to buy new books. Funds for the faculty to travel overseas for conferences also became unavailable during 1998-1999. These trends are common responses in crisis-affected countries and can be seen from the comparative analysis done by IIEP (Varghese, 2001).

Also in 1998, public universities were corporatized only with respect to their management and system of governance. However, because of the economic downturn, new remuneration schemes for academic staff were not implemented as promised. Some of their allowances were either withdrawn or even reduced. With corporatization, public universities were expected to adopt a business-like approach to increase administrative efficiency and to generate their own income. Several public universities increased the fees for postgraduate courses. However, the undergraduate fee structure remained unaffected. In order to cope with increased student enrolment, many public universities franchised their matriculation programmes to off-campus private colleges.

Private colleges were also affected by the crisis, which resulted in a 20 to 30 per cent reduction in enrolment, especially in foreign-linked programmes where part of the study was to be conducted overseas (Lee, 1999). This led to a surge of institutions and programmes that were popularly called '3+0 courses' in which all foreign-linked university programmes are conducted locally. These programmes have become very popular because a student might save between RM 10,000 to RM 50,000 in fees by doing the entire programme locally, and yet obtain the degree from a foreign university. Some foreign universities, e.g. Australia or the UK, have also established their campus in Malaysia. Rapid privatization of tertiary education, however, raises the concern for quality, particularly in the technical area (ADB, 1999) and calls for efficient mechanisms in order to monitor the process.

Institutional response to the crisis emerged as well in the form of some change in policy. For instance, the credit-transfer policy of public universities to accommodate many Malaysian students who were unable to continue their studies overseas, and wanted to join local institutions. It was mandatory for them, up until this time, to complete at least two years of education in a local university before qualifying for any credit transfer. The new policy allowed them to obtain their degree without a loss of time.

Similarly, many universities established foundations and subsidiaries to mobilize funds from different sources to support several important activities. For instance, the IIUM established a business unit called Gombak Educational and Cultural Development

(GECD), which runs several projects, e.g. school housing. It has also established a *Wakaf* fund to mobilize donations and support from within and outside the university to meet the needs of poor students.

The economic crisis also highlighted the need to explore other modes of delivering higher education in Malaysia. An example would be distance learning. Most public universities have their own distance learning programmes, these programmes becoming increasingly popular. The country's first virtual university (UNITAR) was established in 1998. It offers all of its programmes through the distance mode using modern telecommunication technologies.

6. Emerging issues and concerns

The impact of the crisis can be observed from three perspectives, namely, individual, institutional, and countrywide. At the individual level the downturn made a significant difference to household budgets due to unemployment or under-employment and loss of money both in the stock market as well as due to rising inflation. The middle-income group, therefore, which constitutes the traditional clientele of higher education, could not afford to seek higher education on its own, and government support for higher overseas education became scarce for the *Bumiputera*, which constituted the major share of the lower-income group. There were not enough places for them, either, in local public institutions. Thus, in the process, many could not continue their tertiary education. This situation changed during the recovery period. The financial crisis, therefore, highlights the need for evolving policy measures – perhaps social safety programmes – to meet the demand for higher education in such eventualities. Indeed, the National Higher Education Fund, established by the Malaysian Government as a response to the crisis, which gives generous funding support to students seeking higher education in public and private institutions, appears to be a very timely intervention.

At the institutional level, the economic downturn resulted in budgetary deficit affecting daily operations as well as development plans of public institutions. The impact was quite visible, from the procurement of library books to the rationing of air conditioning hours and support to students' activities. The devaluation of the ringitt and reduction in some allowances given to the teaching staff resulted in a high turnover rate of the international faculty, particularly in technical subjects. The salary package became less attractive when compared to that offered by universities in some other countries. The emphasis on expansion of educational facilities at the tertiary level in public universities and particularly in science and technology fields requires additional teaching staff. How this may be met is an important issue. Hiring back retired teachers and part-timers were some of the measure taken by public universities to meet their faculty requirements.

From the countrywide perspective several important issues emerge. Perhaps as a response to problems faced during the economic downturn, the government accelerated its efforts to provide tertiary education locally and, beyond that, to transform Malaysia into a regional centre for higher education. Several measures have been taken to attain this objective, such as promoting franchise arrangements between local public and private institutions and setting up off-campus and distance learning programmes. However, the implementation of these programmes should be re-evaluated in order to ensure that the quality of education, among other things, is upheld, fees are reasonable, and the teaching/learning facilities that are provided are at par with public institutions (NEAC, 1998).

Malaysia aims at transforming its economy from the present 'P-economy' or production-based, to a 'K–economy' or knowledge-based. It is obvious that the achievement of this goal requires concerted efforts in building both human and knowledge capital, a more competent and creative workforce. Therefore, it is imperative that focus should be put on developing skilled manpower. According to an estimate in 1999, a total of 708 manufacturing projects with total investment of 16.9 billion were approved by the government. Of the 65,261 persons required for these projects, the majority (42 per cent) comprised skilled workers. Nonetheless, students' enrolment figures in local public institutions indicate that a strong preference persists among students for arts and social science subjects, rather than science and technical subjects (see *Table 4*). Studies also suggest that providing regular training to workers is not practised by a large number of Malaysian companies. A review of education and training programmes is, therefore, much needed to cope with future challenges of the 'K-economy' (Bank Negara Malaysia, *Annual Report*, 1999).

Table 4. Enrolment in first-degree courses in local public educational institutions, 1995-2000

Course	Enrolment						Increase (%)	
	1995	%	1998	%	2000	%	1996-1998	1999-2000
Arts	47,630	60	74,964	55	91,988	53	57	23
Science	18,698	24	36,481	27	46,194	27	95	27
Technical	12,686	16	25,244	18	35,142	20	99	39
Total	79,014	100	136,689	100	173,324	100	73	27

Source: Government of Malaysia, Mid-term review of Seventh Malaysian Plan.

Two issues related to the development of higher education in Malaysia should be discussed in this context. They are corporatization of public universities and privatization of tertiary education.

Corporatization was initiated in 1998 with a view to providing universities with greater financial and administrative autonomy. It was also expected that these universities would adopt businesslike strategies resulting in cost savings, increased administrative efficiency and reduction in the turnover rate of academic staff with the remuneration package offered to them at a competitive market rate. However, there are serious concerns about the emergence of universities as business corporations rather than public, social institutions. According to some, this amounts to sacrificing the very objectives of higher education institutions, which are the production and transmission of knowledge as a social good. This is now replaced by an emphasis on the production of knowledge as a market good, a saleable commodity (Buchbinder, 1993), which implies that choices regarding courses to be offered, research initiative to be funded, funding agencies to be approached, student market to be served, enrolment policy to be adopted, will all be based on cost revenue calculations rather than on academic criteria alone. The most important consideration will be whether any decision taken is a good business decision or not (Buchbinder and Newson, 1990).

Corporatization has generated much anxiety among academicians in Malaysian universities. They fear that university authorities will give excessive attention to entrepreneurial activities at the cost of academic quality and freedom of the university. They also sense marginalization of the academic community in university governance when the size of the university senate is reduced in the process. Moreover, sudden increase in student intake without additional allocation of resources can be detrimental to the quality of university education. In short, corporatization, if not managed properly, may prove to be costly and counter-productive to the basic objectives of the institutions (Lee, 1999).

Privatization of higher education is another issue that should be deliberated in the present context. As a result of governmental privatization policy, there has been rapid expansion of private institutions in Malaysia in the recent past. These institutions are owned and managed by groups which are either profit-oriented enterprises or non-profit institutions. In order to both mobilize and optimize private and social resources for higher education, various forms of partnership have been established between government, NGOs, the private sector, local communities and religious groups. The mode of ownership determines the size of capital base for development and operation of the institutions, and therefore has significant implications pertaining to the delivery and quality of educational programmes (Lee, 1999).

Equity and quality issues become all the more important when there are both public and private providers. Indeed, privatization has increased the possibility for more students to enter a higher education institution. However, is this expansion at the expense of quality and equity? Do less privileged students pay more for inferior education that is available in some private institutions (Lee, 1999)? These are important questions that should be further probed.

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V. THE CASE OF UNIVERSITI UTARA, MALAYSIA

by Dato Dr Mohd. Saileh bin *

1. Introduction

Empirical evidence suggests that education is vital to the economic growth of East Asian countries. Most of the South East Asian economies, except the Philippines, have enjoyed a very high growth rate of GDP (between 7 to 9 per cent) within recent decades. However, the economic crisis changed the scenario. The crisis started as a financial crisis and it struck the region in 1997. It eventually developed into an economic and social crisis. During the crisis period unemployment increased, prices rose, household income and individual earnings decreased and government budgets were reduced in most of the countries in the region.

Malaysia was also affected by the economic crisis. The expanding economy of Malaysia, with an average annual growth rate of nearly 9 per cent from 1991 to 1996, came to a halt as a result of the financial crisis. The economic crisis also affected higher education in Malaysia. This paper will discuss the impact of the crisis on higher education policies in Malaysia, with particular emphasis on staff and resource management practices at the Universiti Utara, Malaysia.

2. Higher education system in Malaysia

The present education system in Malaysia is the heritage of the nation's historical, social, economic and political development. The formal education system of Malaysia, up to pre-university level, has a

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6-3-2-2 pattern which shows the number of schooling years at the primary, lower-secondary, upper-secondary and pre-university levels. Education at the tertiary level may start immediately after upper-secondary level. However, in most cases, education at the university level actually starts at least two years after the upper-secondary level.

Currently, there are fifteen public and five private universities in Malaysia. The public universities and their year of establishment are shown in *Table 1*.

Table 1. Malaysian public universities, 1962-1999

University	Year of establishment	Location
Universiti Malaya	1962	Kuala Lumpur
Universiti Sains Malaysia	1969	Minden, Pulau Pinang
Universiti Kebangsaan Malaysia	1970	Bangi, Selangor
Universiti Putra Malaysia	1971	Serdang, Selangor
Universiti Teknologi Malaysia	1975	Skudai, Johor
Universiti Islam Antarabangsa	1983	Gombak, Selangor
Universiti Utara Malaysia	1984	Sintok, Kedah
Universiti Malaysia Sarawak	1992	Kuching, Sarawak
Universiti Malaysia Sabah	1994	Kota Kinabalu, Sabah
Universiti Perguruan Sultan Idris	1997	Tanjung Malim, Perak
Universiti Teknologi MARA	1999	Shah Alam, Selangor

The nation's oldest university is the University of Malaya which was established in 1962, while the most recently established university is Universiti Teknologi MARA, established in 1999. Since then, four university colleges have been established. Hassan Said (2000) reported that as early as June 2000, total undergraduate enrolment in public universities is 143,971, while postgraduate enrolment consisted of 20,525 for the master's programmes and 3,011 for the doctoral programmes. The percentage of student enrolment according to the various fields of study was as follows: pure science, 4 per cent; applied science, 18 per cent; technology, 19 per cent; medicine, 4 per cent; arts and humanities, 20 per cent; and professional arts, 35 per cent.

The total number of academic staff at public universities is 10,554. Within the public-funded universities, there are five ranks in the academic hierarchy. The lowest rank is tutor, followed by language teacher, lecturer, associate professor and professor. Unlike qualified schoolteachers who are formally trained in pedagogy and educational philosophy, academics in Malaysia are not trained thus. However, most universities organize courses in teaching, methodology and evaluation for their faculties. While tutors generally tend to hold first a bachelor's degree before they continue with studies for a master's degree, lecturers must at least have a master's, if not a doctoral degree. Of late, most universities are insisting that their staff should have a Ph.D. before they can be promoted to the post of Associate Professor.

3. Effect of the financial crisis on higher education

The financial crisis of 1997 has prompted the Government of Malaysia to review its policy of sending a very large number of students to study abroad. Before the crisis in 1997, approximately 54,000 Malaysian students were pursuing higher education abroad, mostly in the United States and United Kingdom. The falling value of the Malaysian currency has resulted in higher cost (in Malaysian currency) for Malaysians to study abroad. As a consequence, many Malaysian students had to return home and study at local higher education institutions. For example, the number of Malaysian students studying in the United Kingdom dropped by about 44 per cent between 1997 and 1998.

The sudden influx of Malaysian students from abroad has strained the resources of local higher education institutions. However. universities are not allowed to increase undergraduate tuition fees without prior approval from the Ministry of Education. The universities were encouraged to explore other sources of income to supplement the traditional sources. As a result, the students-to-staff ratio has increased. To help students to finance their educational cost, the government has set up a fund known as the National Higher Education Fund.

The financial crisis has also triggered the government to deregulate tertiary education to absorb more students. During this period, Malaysia saw an increase in the number of private higher education institutions. Hassan Said (2000) reported that there were 5 private universities and 591 private higher education institutions with student enrolment of 203,391 locals and 10,283 foreign students in the year 2000. More than half of these private higher educational institutions are in the Klang Valley around the capital city of Kuala Lumpur. To ensure that quality education is being offered by higher education institutions, the government has also established the National Accreditation Board.

4. Effect of the crisis in the Universiti Utara Malaysia (UUM)

Universiti Utara Malaysia (UUM) is the sixth public university in the country. The university is committed to providing world-class quality management education. All degree programmes are vetted rigorously prior to their introduction and reviewed regularly to ensure that they continue to provide a high-quality management education. The university is unique in a sense because it does not offer comprehensive programmes in arts and humanities, pure science and engineering; but offers only academic programmes related to management. The major source of funding for public universities comes from the government. The UUM, for example, depends on 70 per cent of its fund from the government. The balance is from the income from tuition, residential rent and other charges.

At present, 18,668 students are pursuing their undergraduate and postgraduate degrees. Annex 1 shows that the university offers 21 undergraduate degree programmes and 9 postgraduate degree programmes. The five degree programmes with the most number of students are: business administration (3,384 students), accounting (2,470 students), public management (2,128 students), information technology (1,884 students) and economics (1,412 students). Degree programmes are offered by 10 schools, namely the School of Languages and Scientific Thinking, the School of Economics, the School of Social Development, the School of Management, the School of Accounting, the School of Information Technology, the School of Finance and Banking, the School of Tourism Management, the School of Quantitative Science and the Graduate School.

Economic crisis and student enrolment

At Universiti Utara Malaysia, student enrolment increased from 326 in 1984 to 7,952 in 1997. In 1998, student enrolment increased sharply to 9,790. The increase was due to the intake of Malaysian students returning from abroad and the change in the government policy of reducing the number of Malaysian students studying abroad as a result of the financial crisis. Since then, the number of undergraduates at Universiti Utara Malaysia increased to 17,415 in January 2001. The sharp increase of undergraduate enrolment is shown in *Figure 1*.

Staff

Currently, there are 914 academic staff at Universiti Utara Malaysia. They consist of 25 professors, 68 associate professors, 538 lecturers, 257 tutors and 26 language teachers. Their distribution, according to schools, are shown in *Table 2*.

Figure 1. First degree student enrolment 1984-2000

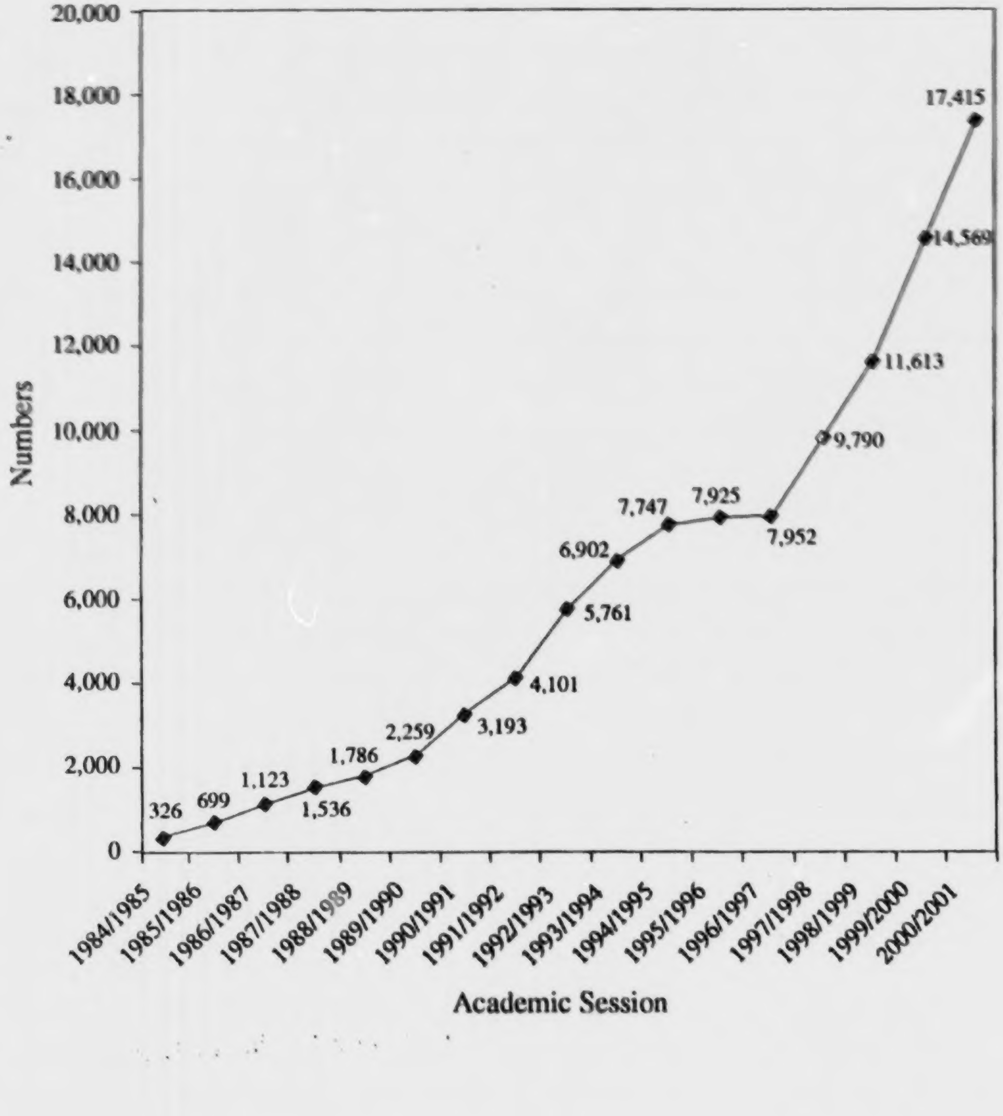

Table 2. Universiti Utara Malaysia: distribution of academic staff by schools (January, 2001)

Post - School	Professor	Associate Professor	Lecturer	Language Teacher	Tutor	Total
Languages and Scientific thinking	2	7	68	26	16	119
Economics	3	6	559	0	21	89
Social development	2	17	84	0	36	139
Management	5	11	115	0	37	168
Accounting	1	9	63	0	46	119
Information technology	2	9	79	0	45	135
Graduate	5	2	1	0	0	8
Finance and banking	4	2	32	0	22	60
Tourism management	1	2	15	0	8	26
Quantitative science		3	22	0	26	51
Total	**25**	**68**	**538**	**26**	**257**	**914**

Unlike with the academic staff, there are only three ranks in the administrative staff hierarchy: top management, management, and professional and supporting staff. At present, there are altogether 776 administrative staff comprising 7 top management, 130 management and professional and 639 supporting staff, as in *Table 3*.

Table 3. Categories of administrative staff

Category of staff	Total
Top Management	7
Management and professional	130
Supporting	639
Total	**776**

Procedures for recruiting academic and administrative staff are not significantly different from those employed by other organizations. The process starts with an advertisement in the media (mainly the national dailies) followed by shortlisting and interviewing. For junior appointments, such as tutors and lecturers, the panel of interviewers is made up of the Deputy Vice-Chancellor, Dean of the respective schools and two nominated senate members. But for senior academic positions, such as professors, personnel from outside the university system, who are experts in the area of study relevant to the position being advertised, may be invited to join the panel. As for the administrative, and support staff, the panel is made up of senior administrative staff.

(i) Staff salary

The salary scales of university staff are decided by the government. The current pay structure for university staff in public institutions is summarized in *Table 4* and their allowances and contractual agreements in *Table 5* below.

Table 4. Pay scales of University Academic Staff (US$) 1996

Status	Salary range per year
Lecturer	8,520 – 20,148
Associate Professor	16,440 – 24,576
Professor	23,904 – 34,128

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Table 5. Other allowances and contractual conditions for public university staff, 1996

Benefit	Quantum
Entertainment allowance (p.m.)	
• Lecturer	US$ 200
• Associate Professor	US$ 320
• Professor	US$ 480 – 1000
Housing allowance (p.m.)	
• Lecturer	US$ 280
• Associate Professor	US$ 360
• Professor	US$ 520 – 800
Annual leave (p.a.)	
• Less than 10 years' service	30 days
• More than 10 years' service	35 days – 1
Medical	Staff and immediate family fully covered (excluding dental)
Employees Provident Fund (pension scheme)	From gross salary Employee contribution: 11 per cent Employer contribution: 12 per cent
Retirement	Age of 55 years
Termination or resignation	Probation: 1 month's notice Confirmed: 3 months' notice
Declaration	All assets at time of employment
Increment	Not automatic
Medical evaluation	Compulsory, prior to commencing employment
Morals	To be exemplary
Duties	To be determined by Head of Department
p.m. = per month	
p.a. = per annum	

The pay structure, however, should be adjusted to reflect the recent government announcement that all civil servants will receive a 10 per cent increase in their basic salary besides an adjusted increase in their housing allowance.

As pay increments are not automatic, academics who are not active in research, consultancy or publication tend to lag behind their colleagues on the remuneration ladder (Hj. Din and Balashanmugam, 1999). Staff evaluation is carried out annually and their yearly increments will be based on the annual evaluation result.

In terms of promotions, as noted by Hj. Din and Balashanmugam (1999), there seems to be very little difference between the public and private sectors. The end result in both cases is an increase in remuneration and benefits. However, like other Malaysian public universities, there is a change of designation from lecturer to associate professor or associate professor to professor. The promotion criteria for academic staff are based on their teaching, research, consultancy, publication and community services.

(ii) Staff changes

The increase in student enrolment influences the number of academic and administrative staff being recruited. *Table 6* below also shows that there was a significant increase in the number of staff recruited in 1998, 1999 and 2000 to meet the increase in student enrolment during and immediately after the financial crisis.

Table 6. New staff recruited 1990-2000

Post \ Year	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00*	Totals
Professor	1	0	0	2	0	0	0	1	3	8	0	15
Associate Professor	5	1	3	2	1	1	1	0	2	2	0	18
Lecturer	43	21	50	62	71	43	32	41	28	53	26	470
Tutor	8	3	9	13	6	3	3	5	36	64	124	274
Languages Teacher	0	1	5	5	3	7	0	2	2	7	2	34
Top management	3	0	1	1	0	0	0	1	1	1	0	8
Management and professional	43	22	6	14	21	14	20	19	13	14	15	201
Supporting	86	38	40	44		17	58		21	22	34	415
Totals	**189**	**86**	**114**	**143**	**143**	**85**	**114**	**93**	**106**	**171**	**201**	**1,435**

* As of July 2000

To expedite the recruitment of academic staff, greater empowerment was given to the school to recruit them. The sharp increase in the number of lecturers and tutors being recruited after the crisis was due to the change of staff recruitment policy whereby greater empowerment vas given to the school to recruit more academic staff.

Table 7. Number of administrative staff for the years 1997, 1998 and 2000

Year	1997		1998		2000	
Category	Numbers	Increment (%)	Numbers	Increment (%)	Numbers	Increment (%)
Top management	4	-	3	-25	7	233
Management and professional	115	-	115	-	130	13.04
Supporting	532	-	546	2.63	639	17.03
Totals	**651**	**-**	**664**	**2**	**776**	**16.86**

The rise in student intake did not significantly influence the number of management and professional staff. There were no additional management and professional staff from 1997 to 1998. However, there was a slight increase of 13.04 per cent in 2000. Similarly, there was a slight increase of supporting staff from 532 in 1997 to 546 in 1998. Then, the number of supporting staff increased to 639 in 2000 (see *Table 7*).

From 1984 to 1999, 397 staff members either resigned, died, terminated, retired or their contracts expired *(Table 8)*. More than half who left the university resigned and about a quarter had to leave because their working contract had expired. In addition, nine staff died while in service: one tutor, one administrative staff member and seven supporting staff. Nearly half the number of staff who left the university were academic staff. It is interesting to note that the services of 4 lecturers; 14 tutors and 2 supporting staff were terminated.

During the period of financial crisis, the university had experienced the lowest percentage of staff who resigned. Since jobs are not easily available during a crisis period, those who were employed tried to stick to their jobs. It is too risky to resign and seek another job during a crisis period and this has helped retain staff in the university. However, another effect was that the university could not recruit staff due to the crisis, although enrolments doubled during this period, leading to a high staff/student ratio.

Table 8. Staff changes (leaving the jobs) 1984-1999

Category Reason	Management and Professional (Academic)	Management and Professional (Administration)	Supporting staff	Tutors	Total
Resignation	67	34	81	40	222
Death	0	1	7	1	9
Termination	4	0	2	14	20
Retirement	10	14	11	0	35
Contract expired	48	37	26	0	111
Total	**129**	**86**	**127**	**55**	**397**

5. Institutional response

(a) The effect of staff changes on staff-to-students ratio

Ideally, an increase in student enrolment should be followed by proportionate increase in academic, as well as administrative and support staff. However, the reality is that staff recruitment and development appear to be taking a little longer. As a result, the academic staff-to-student ratio which was expected to decline to 1:18 had in fact increased to 1:20 in 1997, 1:21 in 1998 and 1:23 in 1999 *(Table 9)*. However, the academic staff-to-student ratio for the current year has improved slightly to 1:22. This was due to the positive change in staff recruitment procedures and policy.

Table 9. **Administration staff: undergraduate student ratio (1997-2000)**

Post	Ratio			
	1997	1998	1999	2000
Top management	1:2448	1:3871	1:3696	1:2541
Management and professional	1:85	1:101	1:116	1:146
Supporting	1:18	1:21	1:20	1:30
Total	**1:15**	**1:17**	**1:18**	**1:24**

The administrative staff-to-student ratio has not improved since 1997. However, this does not necessarily mean that there was a decline in the quality of administrative and supporting services to the university's major stakeholders such as students and staff. The service has in fact improved due to effective applications of information technology in administration. This is evident by the fact that the university is the first public university to be awarded the Multimedia Super-Corridor (MSC) status.

(b) Changes in the staff recruitment policy

The university has taken important measures which resulted in the process of recruitment being simplified and time taken to recruit the academic staff being shortened. Recruitment is no longer done on a twice yearly basis. In the past, the recruitment process might take about six months to a year before an applicant was employed. With the new measures, however, the vacancies are advertised on the World Wide Web and in the national dailies. The applications are then shortlisted and the applicants are interviewed on a regular basis. To expedite the process, the Deans and selected senior faculties are empowered to interview the applicants and employ them. Before they are employed, the list of successful candidates is required to be endorsed by the Executive Management Committee which comprises the Vice-Chancellor, three Deputy Vice-Chancellors and three senior administrative staff. The Committee meets weekly which thus shortens the recruitment process from approximately one week to a month.

(c) Crisis and professional development

When the financial crisis was at its peak in 1997, the immediate response was a faculty members' cut-down on the provision for overseas study programmes for the university staff. Members were to encourage university tutors and lecturers to further their postgraduate studies within any Malaysian university. This intention was to reduce the cost of staff development and to reduce the outflow of Malaysian currency. This made the university teaching profession less attractive to newcomers. As a result, there was a significant decrease in the number of applications for the posts of tutors and lecturers. With the recovery, the university is modifying the policy by providing opportunities for tutors and lecturers to further their studies in universities abroad. In many an instance, academic collaborations with foreign universities were encouraged. The arrangement enables academic staff to be trained and later gain foreign university degrees by spending only a quarter of their time at the foreign university.

Furthermore, in order to attract more qualified candidates for the post of tutors, the university awards about 10 attractive university scholarships per year to outstanding first-year undergraduates who aspire to become tutors. They are then taken in as tutors when they qualify. The scholarship programme has attracted a significant number of applications. In addition, the tight labour market did help the university by encouraging applicants from the industrial sector to join the university.

(d) The Build-Operate-Transfer (BOT) approach to finance development projects

The financial crisis, to some extent, affects the university development budget. A few physical development plans had to be shelved. The university has explored various innovative methods to finance its development projects. One of the methods is by a 'build-operate-transfer' (BOT) approach to finance development projects. The university staff has to be trained to evaluate the proposals.

In order to reduce the immediate financial burden on the university and the government, the University made a special arrangement with the private sector to build student hostels near the university campus on the BOT approach. The BOT arrangement requires the private sector to build and finance student housing facilities. The private sector is then given permission to charge the students at a price agreed by the university and the government. The private sector will then operate and maintain the students hostel for a specific period. After a period of 14 to 15 years the ownership of the building will be transferred to the university.

(e) Assembling the university's 'Serind IT' computer

The university has a policy of providing adequate computer facilities to its academic and administrative staff. It was intended that the university would be fully networked and every lecturer's room would be equipped with a computer. Computer facilities for the students and staff would also be improved. However, the financial crisis affects the implementation of the university's IT plan. To ensure that the plan is achieved at the lowest cost possible, the staff of the university's Computer Centre were trained to assemble the latest version of the PC, utilizing the most recent technology available. Now the university assembles its own computer called the 'Serind IT' and the programme has saved the university almost RM0.8 million for the year 2000.

(f) Flexible working hours and method

The financial crisis has perhaps quickened the change from the traditional working hours of '8.00 a.m. to 4.00 p.m.' to a more flexible and productive method. While the number of students is increasing with no significant addition to the physical facilities, new methods of teaching and working time were explored. To enhance teaching and learning, academic staff were trained in e-teaching. At the same time students are encouraged to go for e-learning methods, such as web-based learning. In addition, classes are extended to 10.00 p.m., thus maximizing the utilization of physical facilities.

(g) Greater utilization of adjunct professors and Fellows

At Universiti Utara Malaysia, schools are encouraged to appoint leaders in industry to be Adjunct Professors for a specific period. They are required to complement and enhance students' learning experience through lectures and seminars or by sharing their industrial experiences with students and faculties. Besides Adjunct Professors, Adjunct Fellows were also appointed from among leading managers in industry to enhance students' learning. During the financial crisis, greater utilization of Adjunct Professors and Fellows from industry was encouraged.

(h) Towards implementing an E-University

To ensure that quality of teaching, learning and services is achieved with the support of information technology, the university is fully networked. The staff of the university, through effective human resource management strategy, is committed to developing this university towards an E-University with greater utilization of information technology in teaching, learning and administration.

Conclusion

Higher education is recognized as vital to economic growth. Higher education promotes economic growth through increased individual productivity spurred by the acquisition of new skills and attitudes as well as knowledge. The financial crisis had however influenced the planning in higher education as well as the management of academic and administrative activities.

The falling value of the Malaysian currency has resulted in higher cost for Malaysians studying abroad. As a result, many Malaysian students studying abroad had to return home. The government has undertaken the policy of reducing the number of Malaysian government-sponsored undergraduate students studying abroad. These strained the resources of local higher education institutions. The financial crisis had also triggered the government to deregulate higher education to absorb more students. During this period, Malaysia saw an increase in the number of private higher education institutions.

The financial crisis also affected Universiti Utara Malaysia, with declining public resources. Student enrolment increased without a proportionate increase in the number of academic staff. The effect could have been severe if certain strategies had not been undertaken. Staff recruitment strategies and procedures were changed to meet the changing needs. Various innovative measures were taken to ensure the provision of high-quality management of education and quality of services provided by the university.

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Annex 1. Total student enrollment for the year 2001 (January)

Programmes	Numbers
First degree programmes	
Economics	1,412
Public management	2,128
Business administration	3,384
Accounting	2,470
Information technology	1,884
Tourism management	451
Human resource management	801
International business management	543
Management with education (Accounting)	357
Management with education (Information technology)	354
Management with education (Business administration)	606
International affairs management	705
Social work management	698
Banking management	204
Accounting (Information system)	220
Communication	290
Finance	190
Technology management	217
Decision science	85
Development management	223
Multimedia	133
Graduate programmes	
Ph.D.	94
MSc (Mgt)	86
MBA	584
MPA	13
MA	17
MBA (Acct)	70
Mecon	15
MSc (Ed. Mgt)	139
Total	**18,668**

VI. A NOTE ON THE ECONOMIC CRISIS AND HIGHER EDUCATION IN THE PHILIPPINES

by Mona Dumlao-Valisno*

1. Introduction

The theme paper entitled *Economic crisis and higher education in East Asia* presents an insightful study on the impact of the 1997 East Asian economic crisis, particularly in higher education, on the magnitude and changes in demand for higher education, on the responses at the system level and on the responses of higher education institutions (HEIs) to public policies and reform measures adopted during the said period. While the sample populations in the study only included those from countries among the High Performing Asian Economies (HPAEs) as identified by the World Bank (1993), the Philippines was one of the five countries identified by the Asian Development Bank (2000) and the World Bank (2000) as the most affected by the Asian economic crisis. Thus, I find the data presented in this study' highly relevant to the effects of the economic crisis in the country, specifically in the higher education sector, and as a policy framework guide to imminent recovery.

The methodology employed by the author in exploring the implications of the Asian crisis on the higher education sector could not have been more lucid and informative. The author's organization of relevant information on factors that brought about the 'Asian miracle' and the forces that caused the economic crisis was meticulously selected to explain the rather arduous task of giving meaning to these two phenomena. A basic understanding of the Asian economic system both at its boom period and at the time of its downfall provides the proper groundwork for further analysis of the problem in relation to higher education.

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* Commissioner, Commission on Higher Education.

The importance of the higher education sector to the sustainability of economic growth was also discussed in the paper. Most of the East Asian countries rely on higher education to provide a competent human resource pool that is essential for continued growth and operation of industries. Higher education also served as support for domestic policy analysis and research. When the crisis hit the region, higher education, which was supposed to be protected from external and internal disturbance of this type, was not spared.

The crisis, as highlighted by the author, underlined the importance of several factors to guide future policy prescriptions and as a safeguard for future problems of that type and magnitude. The following recommendations were made:

(a) active participation of the state in the economy;
(b) development of a widespread reliable social security system vis-à-vis developed countries;
(c) well designed and targeted subsidy system and support programme;
(d) the need for developing and relying on domestic capacities for policy analysis;
(e) development of a reliable social security system by the private sector;
(f) increased investments in education;
(g) a need to develop or evolve mechanisms of regional consultations to realize strategies in education.

As an educator and policy-maker, I would like to focus on the recommendations and relate to the present experiences in my country. From here, adjustments can be made in accordance with relevant and effective policy intervention that is adaptable to the Philippines' setting and to the region in general.

2. Economic crisis in the Philippines

Over recent decades, before the East Asian economic crisis, the Philippines had been gearing up to join the ranks of the vibrant economies in Asia on account of credible structural policy reforms that it had installed. The Philippines was racing to be one of the dynamic 'dragon' economies of East Asia by adopting new strategies that would encourage as well as force Filipino producers to be more productive and competitive in both the domestic and international markets. The Philippines, at this time, slowly stripped off the label of being the 'sick man of Asia'.

Investments in physical infrastructure, such as power, roads and airports have resumed since the turbulent years of the 1980s. Human capital, educational planning and administrative offices were strengthened through the creation of the Commission on Higher Education (CHED) and the Technical Education and Skills Development Authority (TESDA). This step strengthened the country's stand to meet future demands of the labour market.

A currency and financial crisis that battered the region from the second half of 1997, however, stalled the country's growth momentum. The financial crisis resulted in substantial government revenue shortfalls, which necessitated cutbacks on its spending, particularly in the economic and services sectors, which fell by 33 per cent in real terms. This also meant cutbacks in the delivery of social services, although the social sector was protected from the cutback in expenditures as the compulsory reserve on social services was selectively lifted. LGU expenditures on economic services were also severely affected by the crisis. The crisis also led to increases in unemployment and underemployment rates in 1998.

Although the Philippines still suffers from the aftermath of the economic crisis, it needs to return to a path that leads to sustained growth of output, full employment, and rapid decline in poverty. The Philippines must attract a significant amount of foreign investment, of which a great block deserted the region at the height of the crisis, and move to deliver quality higher education to its people to provide the needed human resource power, both globally competitive and recognized.

It was reported that the Philippines' budget deficit amounted to approximately Pesos 136.1 billion, or more than double the target during the past administration, due to weak tax collections and privatization of revenues. Both the International Monetary Fund (IMF) and World Bank (WB) have refused to release loans to the Philippines because of Manila's failure to meet some of its economic targets. When the peso came down to 55 (to the dollar), many of the businesses were beginning to close shop and, even before that, some were laying off people and implementing a four-day week. This precipitated again the bloodless revolt of the people, the EDSA People Power II.

Now the new government calls for leadership by example and vows a government supportive of "transparency and a level playing field." A level playing field is vital in attracting foreign investors into the economy after hitting low records during the past regime. The business community shall be one of transparency but, of course, all of these problems will admittedly take some time to resolve. The Philippines is back in business. Economic recovery with the strengthening of the peso would help stop the bleeding among businesses clobbered by steep interest rates. The government shall also gain strength by installing new people to create reform initiatives for the country.

3. Higher education in the Philippines: a prey to the economic crisis

Education, especially higher education, was one of the most affected sectors of the government during the 1997 economic crisis. Prior to the financial crisis, the Filipinos were highly literate with a basic literacy rate of 93.9 per cent in 1994. However, as an effect of the East Asian crisis, enrolment data for the school year 1998-1999 indicate that, at the elementary level, although universal access to education has almost been achieved with a participation rate at 95.7 per cent, large disparities still exist between geographic areas in the Philippines.

Drop-out rates at that time continue to be alarming, especially among children from poor families and poor regions. For every 100 pupils enrolled in Grade 1, only 70 are able to complete Grade 6, while only 48 are able to complete secondary education. In the Philippines, because of the crisis, children from poor families are more likely to drop out of school, given their inability to provide for high out-of-pocket costs such as transportation and school projects (NAAA, 1999).

In 1998-1999, 46,257 students were awarded government scholarships in higher education. Nonetheless, there were only a small number of well-targeted student loan and scholarship schemes available, which are needed to improve access of poor but deserving students to higher education institutions. Nevertheless, despite the economic problems, there has been a long-standing effort in favour of education which, at the primary, secondary and especially the tertiary levels, became almost universal. This venture to enhance human capital made it possible for labour to gradually shift towards increased productivity activities and bid sufficient skills to make up for the comparatively high wage cost. Total enrolment in the tertiary level has continuously increased. Before the economic crisis in 1997, during the academic year 1996-1997, it was at its highest with a total of 36.43 per cent of students enrolled all over the country. By the time the economic crisis struck and became full-blown, in the academic year 1997-1998 enrolment stalled, with a greater population, to 35.60 per cent of students in the tertiary level.

4. Higher education: in the aftermath

In May 2000, a *World Bank Social and Structural Review*, entitled "Philippines' growth with equity: the remaining agenda", was submitted to the Philippines Government, which identified that "quality and relevance [in education] have, perhaps inevitably, not always kept up with quantitative achievements: drop-out rates are stubbornly high, mean achievement scores remain well below target, and in higher and vocational education, low-quality state universities and colleges are displacing private institutions. Whereas more than half of the non-poor proceed beyond primary education, only a quarter of the poor do so".

Some measures proposed by the study pertaining to higher education concern the implementation of a comprehensive teacher-training programme, both pre- and in-service. One particular objective should be to raise the proportion of tertiary-level teachers to meet minimum qualification standards from 30 to 70 per cent and develop and monitor school performance standards.

Although enrolment has declined in the Philippines, as is the case in other countries, attributable to the economic bevel in 1997, the Philippines is optimistic for an enhanced higher education sector.

Today, the Philippines stands out for having achieved a relatively high level of education given its per capita income. A strong partnership between public and private sectors has contributed to a rapid expansion of the education system. The presence of a large private sector has relieved the government of many financial burdens for education and permitted mass primary education and a relatively large enrolment rate at both secondary and tertiary levels.

Undeniably, there is still intense dissatisfaction with the quality of education being delivered - as seen in the poor level and mismatch of education output with what national development requires. The mismatch is seen in the high unemployment and underemployment of college graduates, which has persisted at between 10 and 20 per cent. Other problems such as inefficiency, inequality and irrational policy that produced them are pointed out in three recent reviews. The Congressional Education Study in 1991-1993 focuses on quality and administration, while the Task Force on Higher Education 1993-1994 explains the sources of inefficiency and equity in higher education. Lastly, the WB-ADB Philippine Education Sector Study (PESS) in 1998-1999, based on other reviews, covers all vital aspects including management and finance.

Until now, the same picture of the state of higher education is still replete with symptoms of disease ailing the system. Since the creation of the Task Force on Higher Education in 1995, the same major reform initiatives of the higher education system should still be undertaken. These reforms would enable the Philippines higher education system to meet the demands of the twenty-first century. While the system is very extensive, composing about 1,403 colleges and universities, enrolling more than 2 million students and producing approximately half a million graduates annually, these same graduates do not meet requirements for prospective jobs. Mostly majors in teacher training and commerce, the graduates are predominantly poorly qualified. Large numbers graduate in engineering, the majority of whom in the civil engineering field and therefore not suited to the products and technology of the future. The quality of their education is also suspect considering their rather low pass rates in the professional board examinations. Enrolment in the sciences, mathematics, chemical, electrical and electronics engineering and agriculture comprise a very small portion of the total student population. Moreover, only a small fraction of students in these critical fields pursue graduate work.

Realizing these problems, the Philippines' Commission on Higher Education (CHED) since its creation in 1994 has slowly initiated reforms and innovations in higher education. The CHED has planned, in co-operation with both private and public higher education institutions, to make higher education more relevant and responsive to the needs of a globally competitive human resource base. Moreover, the CHED encourages accreditation by giving greater independence in curriculum development and the setting of tuition fees. The incentives on fee setting are no longer relevant since tuition fees have been deregulated since 1993. CHED likewise uses accredited status of HEIs in granting Centres of Excellence (COEs) and Centres of Development (CODs).

Management of HEIs has likewise improved. In the current reform climate, the shift towards a coherent collegial policy-making body of each SUC and CHED as Chair of the Board of Regents obviously has been making a difference. For one thing, since the SUCs are not under CHED, they have full fiscal autonomy and governance on the institution because of its collegial boards.

In recent years, the CHED has also aimed to work hand-in-hand with the Professional Regulation Commission (PRC) through raising the standards of graduates that take professional board examinations. Slowly, Philippine academic standards are being raised to a level of global comparability and this can be done by improving higher education standards and continuously producing graduates that perform well in PRC professional examinations.

These are only some of the slow but sure reform initiatives of the Commission that should eventually stabilize the higher education system in the country and produce globally competitive graduates. There are also many more challenges facing the CHED and the aim is to quickly track reform initiatives that will bring the country to an improved horizon of national development and stability.

Conclusion

The new administration at the helm of the Filipino nation must provide the required political stability to overcome successive economic setbacks. A recent article from the *Far Eastern Economic Review* included an interview with Manu Bhaskaran, a securities expert from Singapore. Mr Bhaskaran noticed that two important lessons have emerged from the restructuring initiatives of the Asian economies. First, political resolve is the key differentiator between leaders and laggards and, second, functioning institutions are critical, for instance, of a legal system that works.

The Macapagal administration must recognize these observations and set to work in consolidating the various efforts of different government agencies and draft its master plan for national development. There are already positive indications that the government will not back down on its promise to bring to court former government officials accused of graft and corruption. A successful prosecution of these cases would be proof of the political resolve of the new leaders and increase foreign confidence for investment in the country.

The Commission on Higher Education, crisis or not, political instability or not, continues to focus on its quest for quality higher education. The Commission is ready and prepared for additional demands of an emerging Knowledge Society and forecasts on the new administration are bright, which should allow higher education to help bring forth a globally competitive and revitalized Philippines – the next High Performing Asian Economy in the Far East.

VII. IMPACT OF THE ECONOMIC CRISIS ON HIGHER EDUCATION IN SINGAPORE

by Govindar Shantakumar and Pundarik Mukhopadhaya *

1. Introduction

Economic growth with equity has been the cornerstone of the East Asian development model and human capital endowments were crucial for their progress and economic success. Hence universal basic education, widespread secondary education, including technical and vocational education, and high-quality tertiary education were an integral part of the strategy of development from basic through higher education. Singapore typifies these expectations and development since its self-rule in 1959. The government has taken full responsibility for educational policy, public financing, and systems development in the entire education sector. The recent economic crisis (1997-1999) in East Asia might have prompted shifts in expenditure on education in the region.

Increasing household incomes are generally translated into greater demand for higher education in Singapore. This paper addresses the way in which the higher education sector responded to the recent economic crisis.

Section 2 of the paper discusses the nature of the crisis; higher education in Singapore is discussed briefly in Section 3, followed by, in Section 4, the crisis impact on (higher) education. The concluding sections assess institutional response to the crisis and its impact on education expenditure. The case study on the National University of Singapore forms the backdrop to this study.

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2. The nature of the crisis

Singapore is among the fastest growing economies of East Asia. During the 1980-1990 period, per capita real GNP grew at 6.4 per cent p.a., escalating to 8.7 per cent p.a. during 1990-1995 (*Table 1*). It slowed down to 7.8 per cent in 1996, decreasing sharply to 0.7 per cent in 1998, affected by the crisis. By 1999, it had recovered to 5.4 per cent (Menon, 2000) and reached 10 per cent in 2000. Rapid economic growth, low inflation, large foreign exchange reserves, low external debt (internal debt was 85 per cent of 1999 GDP), currency appreciation vis-à-vis the US dollar (slight depreciation during the crisis), higher educational attainment and higher ranking in other social development indicators have been the hallmarks of the economy's progress. The economy is also the most internationalized (Mirza, 1980; Roden, 1989; Peebles and Wilson, 1996), typified by the total trade to GDP ratio of 2.92.

Table 1. Trends in growth rate (% per annum), 1990-1999

Year	GNP (market price)	Per capita GNP (market price)	GNP at 1990 prices	Per capita GNP at 1990 prices
1990	14.3	11.1	11.1	8.1
1991	10.3	7.7	7.3	4.8
1992	9.4	6.3	6.1	3.2
1993	13.5	10.6	10.4	7.7
1994	16.6	13.0	11.5	8.1
1995	11.3	8.0	8.0	4.7
1996	9.3	4.9	7.5	3.2
1997	12.4	8.7	8.4	4.8
1998	-0.5	-3.8	0.4	-2.9
1999	4.1	3.4	5.4	4.6

Source: Yearbook of Statistics, Singapore, and computations by the authors.

Singapore is poised to be a knowledge-based economy in the present century, supported by a strong technological capability and a vibrant and innovative entrepreneurial culture (Lim, 1999). The basic requirement in such an economy is to expand on R&D, upgrade worker skills so as to match existing (imported) technology, and retrain to adapt to changing technology (which is knowledge based). Such core capabilities are expected to provide a competitive basis for the world market.

The crisis of 1997-1999 might have postponed Singapore's long-term goal of achieving the Swiss (1984) standard of living by the end of the last century (Peebles, 1999). The growth rate of GDP declined, and it points towards the short-term effect of the crisis so far.

During 1996-1998 when the crisis affected the region, the ratios fell, leading to decreasing demand for foreign unskilled workers at the lower end of the income distribution, while the high-income brackets continued to attract foreign talents with better remuneration. It must be emphasized that this scenario would be an assurance that the higher education sector has been least affected during the crisis.

It was expected to retrench about 25,000 workers in 1998, in contrast to 9 784 in 1997. The unemployment rate increased to 3.2 per cent in 1998 and further to 4.6 per cent in 1999. To contain costs, nominal wage growth moderated to 1-1.5 per cent in 1998, but inflation was contained within 2-2.25 per cent. The crisis is expected to cost 2-3 per cent off the economic growth rate. If it were prolonged the cost would be higher. Any recovery so far is attributable to sustained demand from the USA and Western countries.

3. Higher education in Singapore

Singapore has a very good record of achievement in education. The literacy rate in 1998 was 92 per cent, and the share of university-level qualified persons accounted for 10.1 per cent of the population, while the mean years of schooling rose from 4.7 in 1981 to 8.0 years in 1998 (*Table 2*). The percentage of Primary 1 cohort entering post-secondary levels during the same period rose from 23 to 94 per cent; for polytechnics from 5 to 40 per cent; and 5 to 21 per cent for university levels. These figures reflect the government's aim for a better-educated population, with 60 per cent of each cohort achieving at least some tertiary education. Also, the 1980-1985 and 1990-1995 periods witnessed sharp rises in the entry ratio of polytechnic levels, due to policy shifts to encourage school-leavers to pursue technical subjects. Annual output of the polytechnics was sixfold during 1970-1975, and 2.7 times for universities during 1975-1985. That the population is better educated is no longer in doubt as policies ensure such a development.

Institutional expansion through numbers of institutes, schools, students and teachers has been highly significant (*Table 2*), especially in the 1990s, with technical and polytechnic institutes expanding alongside the universities. Besides government-sponsored institutions, private-sector participation in twinning programmes with foreign universities (UK, Australia, USA) to provide placement for students not accepted into the two universities (National University of Singapore (NUS) and Nanyang Technological University (NTU), or those who were latecomers, was also encouraged. The Singapore Institute of Management (SIM) spearheaded this through the Open University programme. In addition, students study at overseas universities using their own resources, while the government sponsors the best students at elite universities abroad.

Table 2. Share of labour force by different educational levels (%), 1975-1999

Educational attainment	1975	1980	1985	1991	1992	1993	1994	1996	1997	1998	1999
Never attended school/Lower primary	34.81	25.19	22.50	16.51	15.69	15.19	15.51	15.39	15.12	14.29	14.60
Primary/Lower secondary	31.78	24.69	21.28	19.79	19.21	18.51	17.49	14.41	14.81	13.41	22.21
Secondary	23.91	28.92	29.52	30.48	30.11	30.32	30.42	30.70	28.67	28.51	27.94
Post secondary	6.79	9.30	11.10	12.22	14.59	13.89	14.31	13.81	11.60	11.09	9.88
Diploma	na	n/a	n/a	4.77	5.31	5.40	5.68	7.39	9.21	9.90	10.44
Tertiary	2.30	3.11	5.31	7.18	8.09	9.09	9.80	11.60	12.70	14.10	14.93
Others	0.4	0.09	0.39	1.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Calculations based on data from *Reports of Labour Force Survey of Singapore*, various issues.

According to the 1990 census, in 1981-1990, 26 per cent of university graduates qualified from local universities in arts and social sciences compared to 44 per cent before 1961. Figures for management sciences were 23 per cent and 11 per cent respectively, while for engineering they were 22 per cent and nil. Overseas graduates made up 18, 30 and 24 per cent of the respective disciplines during 1981-1990, compared to 36, 9 and 18 per cent before 1961. These figures highlight the limited capacities at local universities, the availability of disciplines at later stages through policy changes, as well as stringent entry criteria into local universities. It may be noted that students who could afford overseas study may also come from cohorts that could not obtain entry into a selected discipline, as there is a quota in subject and course enrolment. Taken together, the higher education sector exemplifies 'robust' demand for university qualifications, local or otherwise. Some may turn to twinning programmes offered locally to cut costs but such programmes are subject to official licensing.

4. Impact of the crisis on higher education

Policy measures adopted by the government to minimize the crisis impact were:

(a) The new Ministry of Manpower approached manpower issues from a total national and international perspective to adopt an integrated strategy to meet demand. Its long-range development plan drew on the resources and participation of the labour movement, employers and government agencies.

(b) A re-skill programme for 20,000 workers was committed by the government to retrain retrenched and older workers to improve their employability in the new economy. This plan was piloted in 1996.

(c) The 1998 budget introduced fiscal measures to ease business costs and to enhance individual disposable incomes. An off-budget package was meant to boost the economy through cuts in rents, business charges, higher infrastructure spending and stabilization of the property, financial and hotel sectors.

(d) Job loss was minimized through wage moderation and flexibility in wage scales. Salaries were frozen while the NWC recommended wage restraints through a wage cut of 5-8 per cent.

(e) A committee proposed a 15 per cent reduction in total wage costs including 10 per cent in employer CPF contributions, with cuts in corporate and income taxes, levies, rentals and utility charges.

In tandem with international advice, Singapore also adopted IMF-like austerity measures mainly through infrastructure development projects to counter the expected economic slowdown. As wages form a large component of production costs, wage guidelines were important to economic recovery in Singapore, effected through the NWC.

Government expenditure on education (nominal and real) was ever increasing (*Table 3*) in the 1990s, and this trend continued up until the crisis period. Expenditure on education as a share of current expenditure of the government accounted for 24.5 per cent in 1997, but it declined to 21.3 per cent in 1999, almost equivalent to the share education had in 1985.

Table 3. Share of government's current/operating expenditure in social and community services and its components (%), 1975/1976-1999

	Total	Education	Health	Environment	Public housing	Others
1980	28.21	15.46	6.11	3.29	0.90	2.45
1985	32.36	20.39	6.28	2.82	0.70	2.17
1990	36.88	24.67	6.47	2.67	0.64	2.43
1991	36.31	24.25	6.21	2.57	0.68	2.60
1992	42.25	30.07	6.31	2.55	0.74	2.58
1993	37.05	23.75	6.94	2.43	1.20	2.74
1994	39.29	24.98	7.47	2.57	1.29	2.98
1995	37.85	24.60	6.29	2.52	1.51	2.93
1996	35.81	23.25	5.73	2.36	1.22	3.25
1997	38.57	24.54	7.17	2.22	1.42	3.21
1998	36.91	23.37	6.56	2.24	1.17	3.56
1999	34.94	21.34	6.29	2.31	1.22	3.79

Calculations based on data from *Yearbook of Statistics*, various issues.

Real development expenditure accounted for 11 per cent during 1965-1999, while per-student expenditure grew by 1.4 per cent for polytechnics; however, there is a reduction in recent years for universities, in real terms. The expanded higher education structures exclusively cater to sectoral demands for technical, engineering, and IT skills, and this is expected to continue to grow to meet the needs of the new economy. In 1999, engineering enrolment at local university first degree courses comprised 60 per cent, compared to 49 per cent in 1994, and there are plans to diversify disciplines to meet demand for the life sciences through cross-faculty modules, assuring versatility of employment.

One could observe a decline in expenditure on education during the crisis period even in terms of per-student expenditure, which declined both in nominal and real terms during the crisis period. This trend was common to all levels of education (*Table 4*) – in 1988, for example, per-student expenditure declined in all categories and levels of education. Perhaps the decline in per-student expenditure was arrested in the case of secondary education in 1999, but the decline continued, however, at all other levels, even during the crisis period. Per-student expenditure in secondary education surpassed the pre-crisis level in 1999; at the university level one could observe an increase in 1999 over 1998. However, the per-student expenditure at the university level was confirmed in 1999 to be lower than it had been in 1997.

Table 4. Government recurrent expenditure on education, 1965-1999

Year	Government recurrent expenditure per student (dollars)							
	Primary		Secondary		Polytechnic		University	
	Nominal	Real*	Nominal	Real*	Nominal	Real*	Nominal	Real*
1980	720	1,364	1,220	2,311	2,540	4,811	8,084	15,311
1990	2,061	2,377	2,982	3,439	5,916	6,824	13,615	15,704
1996	2,837	2,565	4,153	3,755	8,406	7,600	15,037	13,596
1997	2,960	2,636	4,469	3,980	9,018	7,022	15,125	13,469
1998	2,808	2,414	4,472	3,845	8,144	7,001	12,580	10,815
1999	2,655	2,359	4,852	4,312	8,016	6,229	14,922	13,262
Growth rate 1996-1997 %	-2.2	-2.8	+2.8	+4.7	-1.6	-6.9	-0.26	-0.83

Notes:
* October 1992 – September 1993 as base year.
Figures for the primary and secondary expenditures (after 1995) were obtained from the *Education Statistics Digest*, 1999.
a Include National Institute of Education.
Sources: Singapore, Department of Statistics, Statistical Highlights, 1995 and 1998. Singapore, Ministry of Education, Education Statistics Digest, 1999.

The changes in enrolment at various institutions of higher learning are given in *Table 5*. Polytechnics and universities increased enrolment at 7.9 per cent (males) and 16.9 per cent during 1990-1996, but it was reduced to 2.7 per cent and 5.7 per cent during 1996-1999. Since Polytechnic graduates are also acceptable in university programmes, enrolment is expected to rise further. In NIE, however, and in the university sector, the growth rate of enrolment, devaluated during the crisis period.

Table 5. Students enrolled (full time + part time) at Institutes of higher learning, 1970-1999

Years	Total		Polytechnics		NIE		NUS and NTU	
	Males	Females	Males	Females	Males	Females	Males	Females
1970	9,047	4,038	3,877	217	611	1,390	4,559	2,431
1975	11,206	5,643	6,293	1331	141	544	4,772	3,768
1980	12,075	7,727	6,562	1,712	351	1,977	5,162	4,038
1985	25,075	14,838	15,683	5,927	268	964	9,124	7,947
1990	32,692	22,980	19,276	10,274	433	1,348	12,983	11,358
1991	34,928	25,441	20,237	12,075	415	1,597	14,276	11,769
1992	37,703	28,068	21,517	14,000	487	1,601	15,699	12,467
1993	42,018	31,754	24,412	16,151	609	1,844	16,997	13,759
1994	43,421	33,794	24,718	17,585	647	1,704	18,056	14,505
1995	46,759	37,155	27,258	19,583	658	1,824	18,843	15,748
1996	44,591	36,985	28,412	20,702	555	1,533	15,624	14,750
1997	46,566	38,942	29,681	21,954	634	1,511	16,251	15,477
1998	48,139	41,165	30,081	23,142	872	2,116	17,186	15,907
1999	49,814	43,025	30,725	24,209	770	2,033	18,319	16,783
Growth rates (average annual in %)								
1970-1999	15.54	33.29	23.88	381.25	0.90	1.60	10.41	20.36
1990-1996	6.07	10.16	7.90	16.92	4.70	2.29	3.39	4.98
1996-1999	3.90	5.44	2.71	5.65	12.91	10.87	5.75	4.59

Source: Yearbook of Statistics and own calculations.

During 1994-99, graduate output from various disciplines was significant (*Table 6*), particularly in humanities and the social sciences, health sciences, IT, business and commerce, and the engineering sciences. However, the trend was different during the crisis period. Some disciplines registered a negative growth rate during the crisis period (*Table 6*) – for instance, faculties of law, medicine, dentistry, architecture and building, which indicated a decline in enrolment in absolute terms. It should be mentioned, however, that some of these disciplines experienced similar trends during the pre-crisis period. The decline was sometimes sharper, nonetheless, during the crisis period. It is also significant to note that growth rate in disciplines such as engineering and health sciences increased during the crisis period.

Table 6. Graduates from university first-degree courses by type of course, 1994-1999

							Growth rate (%)	
Type of course	1994	1995	1996	1997	1998	1999	1994-1996	1996-1999
Total	7,514	7,926	8,218	8,679	9,331	9,463	9.37	15.15
Humanities and Social sciences[1]	1,645	1,820	2,054	2,100	2,236	2,218	24.86	7.98
Mass communication	0	0	0	95	101	112	-	-
Accountancy	649	684	695	680	751	779	7.09	12.09
Business and Administration	1,146	1,153	1,206	1,256	1,330	1,254	5.24	3.98
Law	186	194	181	187	173	169	-2.69	-6.63
Natural, physical and mathematical sciences[2]	940	1,062	1,042	1,090	1,147	1,127	10.85	8.16
Medicine	165	141	150	147	148	145	-9.09	-3.33
Dentistry	29	28	37	30	36	32	27.59	-13.5135
Health sciences	53	58	68	69	77	91	28.30	33.82
Information technology	490	499	556	588	673	573	13.47	3.06
Architecture and building[3]	318	296	278	298	294	271	-12.58	-2.52
Engineering sciences	1,893	1,991	1,951	2,139	2,365	2,692	3.06	37.98

Source: Yearbook of Statistics, Singapore and own calculations.

[1] Include arts with diploma in education.

[2] Include science with diploma in education.

[3] Include real estate.

Data are classified according to the Singapore Standard Educational Classification 2000. Data refer to academic year.

The Singapore Management University (SMU), started in 2000, will focus on management disciplines, and will be a private university with a small initial intake. In 1997 there were 1,000 foreign students among the 9,000 intake into the two major universities, but these fell short of official projections of 17,000 graduates per year to service the new economy. The entry of foreign students, mostly on subsidies and scholarships, is expected to fill this gap.

There is a probability that some students may have shelved plans to study overseas, due to currency-exchange problems. They may also be enrolled in programmes of foreign universities in the private sector. This evidence has to be gathered, as there is no published database.

In the case of Singapore, the economic crisis was lagged and short-lived. As the fundamentals were strong, including political stability, the economy was spared the worse scenario, experienced elsewhere in the region. When the crisis developed in the region, local planners were able to assess the impact of regionalism and competitiveness in attracting foreign direct investment into the region, with the government getting into action, as other countries have also done.

That the economic growth rate declined during 1997-1998 is certain, but 1999 and 2000 saw some reversals. The expected fallout in the next few years has also been visualized and precautionary measures will be in place. Besides macro reforms in the financial sector (bank mergers, efficient servicing, and other business-promoting policies), fiscal measures ensured a reduction in total wage costs. Employees took a pay cut to avoid excessive general employment, and the restoration of the cuts is still to come.

Another factor is the labour and skill shortages in the economy, and the full employment situation has led only to retrenchments of foreign unskilled labour on work permits and older workers at the margin without commensurate skills background to meet the new economy's demands. Recruitment of foreign talent was unabated and competitive. Thus unemployment of local workers was minimized and less prolonged. Further, a retraining programme to re-skill retrenched workers went into full gear to make them employable in the recovery phase.

The policies of the 1990s to meet the demands of the economy and globalization continued through the recession, translated into training of skills and higher education in various demand disciplines. Enrolment continued on its expected trajectory for the local population, while more foreign students were admitted into the universities to meet future slack. Thus, there were no 'episodic' changes in enrolment at the universities, contributing to the thesis that reductions in income have not consequently reduced expenditure on education. Furthermore, the local universities did not lower their entry criteria in anticipation of excess demand for places and left the slack to be filled by the private sector. If anything, the crisis served as a reminder to the economy to be ready with new skills and training to avoid structural unemployment. It has also brought into motion the workforce-requirements approach to education rather than a laissez-faire policy. Indicative planning seems to be responsible for tertiary education development and will continue with more government inputs and expenditure.

Though it is known that overseas institutions experienced a decline in student enrolment from the East Asian region, there is no hard evidence that Singapore students were badly affected. Within Singapore, generous student loan facilities are available for local or overseas study, while the contributory provident fund (CPF) of parents is usable as repayable loans to study in local universities. It is contended that the crisis may not have affected foreign studies seriously, despite the currency depreciation vis-à-vis the US dollar, as the urban population may have savings and reserves to seek out opportunity costs within or without. If at all, the crisis effect must be minimal. Also, those not obtaining university places may enrol at the polytechnics, but this enrolment during the crisis is not 'episodic' either, underlining the contention that the effect was not serious enough. As the future effective demand for graduates is ever high, tertiary enrolment, local or foreign, continues unabated.

Currently, the idea of a fourth university has been suggested so as to meet the demand by polytechnic graduates and for new disciplines, but this idea is still undecided. The local universities have introduced reforms in structures and syllabi through cross-faculty modules to make graduates employable in any situation, underlining a generic approach to training.

A report in the *Strait Times* (27 January, 2001) considers that affluence in Singapore would translate to "have the means to get what they (people) want. This includes a good education". Crises may be just an incentive to study further. Within a span of two decades (1980-2000) a fourth university has been mooted by Dr Tony Tan, second Deputy PM who also oversees development in the higher education sectors. Top foreign universities that have set up campuses in Singapore include Insead, Wharton, Johns Hopkins Medicine, and Chicago Business, adding to six and projecting to reach 12 in future years. Despite its small size (population and land), Singapore is poised for increasing higher education enrolment, and the possible reasons are not difficult to find: (i) affluence leading to the wherewithal for a sound education; (ii) changing needs of the economy which have led to changing policies in university enrolment; (iii) admission criteria to (local) universities have not been relaxed and continue to be stringent; and (iv) Singapore planners might have 'hit' the right formula in creating space for more universities without compromising the quality of tertiary education. The market will determine the efficiency of this formula.

Singapore parents do save and send their children to overseas universities, when local placement is not possible, about 3,000 per annum. Added to this is the number of candidates that do overseas correspondence courses (twinning programmes) that also benefit foreign universities. Instead of losing out to these universities, more local university places through a fourth or even a fifth (in the distant future) would be rational national policy. An annual survey of organizations that offer degree courses (Department of Statistics, February, 2001), estimated that 25,400 students were enrolled in external degree programmes in 1999, compared with 22,400 students in 1998, representing a 13.4 per cent increase in the one-year period. It is probable that students not making it to overseas universities, as a result of currency depreciation, might have chosen to enrol in locally offered overseas degree programmes. The majority (76 per cent) was enrolled in bachelor degree courses, and another 23 per cent in master's programmes. Courses were geared to business and information technology, management and computer studies. Humanities and sciences were also attractive. In total, there are about 60 local organizations offering all these courses.

It would seem, we speculate, that the sheer number of 25,000 candidates enrolled in external degree programmes offered in Singapore, would be an indication of a 'critical mass' to start a new university. Instead of programmes elsewhere, a new local university (as mooted through the fourth university) would be attractive and cost-effective to meet industry demands. Thus developments in higher education must be seen as circumventing the effects of the last economic crisis and to thwart future crisis.

5. Institutional response to the crisis

Repercussions from the crisis may have prompted local planners to introduce macro reform measures in the education sector. Such reforms may not be solely to contain the crisis. Reforms of the education sector must be seen within a continuum of policies geared to restructure and upgrade the economy through high value-added production strategies. The crisis seems to be naturally contained within this long-term trend starting in the late 1980s. The 1984-1985 recession led to cost-cutting measures, downsizing, and rationalization of critical manpower, leading to changes in the education system through polytechnic, vocational and technical education, to meet demand for middle-level manpower. At the same time, universities were geared to meet demand for managerial, engineering, scientific and IT manpower. These institutions in the public domain are accustomed to government policy reforms, as significant public expenditure on education is of government origin. Through such controls, public provision to education underlies the strategic premise to gear educational attainment to the economy. Unlike an autonomous educational model, this 'controlled' approach may lead to meeting manpower needs to avoid wastage of resources.

The National University of Singapore (NUS)[9] is chosen for case study in order to analyze the impact of the crisis. Responses and reforms at NUS are under the purview of the Ministry of Education. As a premier institution, its role as a key functionary in developing other institutions (NTU, Open University, and the SMU) should be noted. Faculties are being reorganized under new leadership, hiring of staff under newer disciplines has been activated, and new course modules are to meet the economy's needs. In fact, the transition is expected to be traumatic and even painful, and the process started before 1997. Curricula developments in IT, the life sciences, and generic higher education are to produce marketable skills. While undergraduate developments are in place, research orientation and postgraduate expansion are taking place amidst new institutional set-ups outside the NUS. The SMU is a symbiosis of talents and business disciplines from NUS, NTU and the SIM, and from the Wharton School. Indeed, by 1997, the NUS was preparing for macro reforms, foreseen and initiated by the government under the guidance of the relevant minister. Cost-recovery measures were also introduced from the late 1980s to reduce the subsidy element which is still reasonably high (Shantakumar, 1992).

Enrolment at all levels has increased significantly for postgraduate studies (*Table 7*). Growth rates were high at 26-33 per cent p.a. during 1998-1999 for all types of postgraduate enrolments, while growth of undergraduate enrolment was around 4.4 per cent. This increase in enrolment during the crisis was mainly due to postgraduate expansion in tandem with policy. This may be the reason why the share of graduate enrolment declined during the crisis period and is reflected even in terms of growth rate. This is a niche area, attracting Asian students through scholarships and fellowships, especially from China and India, and it is expected that these postgraduates will eventually find employment in Singapore. Besides, as the higher education system is government subsidized, the proportion of household budget spent on that is very low. Thus the crisis has created only a minimal substitution effect on the demand for higher education.

Table 7. Enrolment and growth (% p. a.) at the National University of Singapore, by level, 1990-1999

Year/Period	Total	Undergraduate	By research	By coursework
		Enrolment (Number)		
1990	15,193	15,193	n/a	n/a
1991	16,,939	14,597	746	1,596
1992	17,420	14,922	879	1,619
1993	18,124	15,395	964	1,765
1994	19,293	16,137	1,094	2,062
1995	20,730	17,100	1,304	2,326
1996	21,936	17,669	1,555	2,712
1997	23,620	18,590	1,766	3,264
1998	25,291	19,342	2,428	3,521
1999	27,955	20,202[1]	3,058	4,695
Composition (%)				
1991	100.00	86.2	4.4	9.4
1992	100.00	85.7	5.0	9.3
1993	100.00	84.9	5.3	9.8
1994	100.00	83.6	5.7	10.7
1995	100.00	82.5	6.3	11.2
1996	100.00	80.5	7.1	12.4
1997	100.00	78.7	7.5	13.8
1998	100.00	76.5	9.6	13.9
1999	100.00	72.3	10.9	16.8
Growth rate (% p. a.)				
1990-1991	11.5	-3.9	n/a	n/a
1991-1992	2.8	2.2	17.8	1.4
1992-1993	4.0	3.2	9.7	9.0
1993-1994	6.5	4.8	13.4	16.8
1994-1995	7.4	6.0	19.2	12.8
1995-1996	5.8	3.3	19.2	16.6
1996-1997	7.7	5.2	13.6	20.4
1997-1998	7.1	4.0	37.5	7.9
1998-1999	10.5	4.4	25.9	33.3

1. Estimated from Budget Statement, 2000/2001. *Source*: NUS, Annual Report, Various issues.

Changes in staff strength, academic and administrative, in absolute terms were not significant, though the turnover rate was high (*Table 8*). Academic staff grew at 1.3 per cent p.a. during 1991-1998, but for administrative and computer professionals, growth was robust (5.9 per cent p.a.); some downsizing, resource control, and deployment may account for cost-efficiency in staff, compared to higher student enrolment. High turnovers and periodic overseas recruitment exercises have been successful, but retaining new or younger staff remains difficult. The crisis has had no significant effect on academic staff recruitment, since there is considerable lag in hiring, between advertising and actual appointment. In an expanding higher education system, as in NUS, there is a lower probability of job loss during a recession. In addition, NUS is the most sought-after university in the region for expatriate academics, due to generous terms and perks, market loading and performance. The high turnover seems to rationalize the market for academics in that new talents meaningful to NUS programmes are in effective demand. Many vacancies are yet to be filled, forcing existing staff to cope with extra workloads.

Table 8. Academic staff strength by faculty (1991-1999), NUS

Faculty/School/Department	1991	1992	1993	1994	1995	1996	1997	1998	1999
Architecture, building and real estate	90	87	84	84	85	84	-	81	82
Arts and social sciences	302	314	333	323	311	311	-	305	319
Business administration	136	147	159	162	165	159	-	166	160
Dentistry	20	20	17	19	18	18	-	20	19
Engineering	182	195	203	205	212	222	-	246	262
Law	58	60	56	59	58	59	-	58	55
Medicine	230	214	215	217	200	191	-	204	211
Science	275	303	324	328	328	322	-	336	239
Centre for English language communication	44	34	42	42	36	33	-	37	45
Chinese language research centre	5	5	5	6	-	-	-	-	-
Computing	-	-	-	-	-	-	-	-	97
Total	1,325	1,389	1,438	1,445	1,413	1,399	-	1,453	1,489
Administrative staff (including computer professionals)	230	247	277	290	295	323		343	n/a

Source: NUS Annual Report, various years.

Total cost per student shot up from US$19.6 thousand in 1990 to US$26.9 thousand in 2000, of which the cost-recovery rate was 21-22 per cent, the peak being for the period 1995-1998 (*Table 9*). Any difficulties in meeting the non-subsidy portion, especially during the 1997-1998 period, would have been counterbalanced by a lower cost-recovery rate (in 1998-2000), cushioning the burden of providing higher education. Provision and government control of university resources seem to be a blessing, as there will be quick responses to serious economic crises. High subsidies are also a blessing for higher learning, but its sustainability over the long run is still debatable, due to an ageing population and higher-aged dependency. Through subsidies, the government expects productivity increases on human endowments to counterbalance perceived productivity declines of an ageing workforce. Among all university programmes, NUS expenditure constituted 63 per cent in 1995, declining slightly to 53 per cent in 1999. Fluctuations in university funding cannot be explained solely by economic setbacks but through rationalization of policies and emphases on other tertiary development programmes as well, since benefactions through endowments have attracted additional funding to NUS. Cost, nominal and real, per student declined during 1997-1998, thereafter increasing substantially. It is probable that the crisis might have prompted a cost decline to minimize the foreseeable impact of the impending crisis.

Table 9. Cost/Subsidy per NUS undergraduate student, 1990-2000

Year	Total cost per student (S$)	Subsidy per student (S$)	Cost recovery %
1990	19,631	15,431	21
1991	21,145	15,989	24
1992	21,641	16,698	23
1993	22,147	17,165	22
1994	24,946	19,817	21
1995	20,905	15,346	27
1996	21,183	15,352	28
1997	21,487	15,635	27
1998	19,497	13,797	29
1999E	23,589	17,604	25
2000P	26,882	20,948	22

Source: Compiled/computed from NUS, Annual Report, various issues, and the Government Budget, various financial years.

Notes: For 1995-2000P, separate figures for 3-programme-based costs were converted into weighted averages.

6. An assessment of the crisis and its impact on higher education

That the crisis may have had negligible effect on university programmes may be analyzed through time-series data. Despite a slight decline in per capita GNP during the crisis, enrolment in higher education was unhindered. Changes in enrolment during 1991-1999, depicted in *Figure 1*, indicate that undergraduate enrolment was on a 'normal' growth path, without any sudden decline or increase, whereas postgraduate enrolment grew more quickly.

For 1996-1999 alone (*Figure 2*), the growth coefficient for postgraduate enrolment was even steeper, while the coefficient for the undergraduate group was lower than for 1991-1999 as a whole. This has led to a widening of the gap between enrolment in undergraduate and postgraduate levels. In fact, enrolment in undergraduate courses as a share of total enrolment in tertiary education declined during the crisis period.

It is possible that in other countries affected by the crisis, higher education enrolment might have increased, for a variety of reasons related to the crisis. However, in Singapore, the rise in higher education enrolment can only be explained by changes in emphasis on postgraduate education, as happened in the early 1990s. The normal growth rate of undergraduate enrolment, even during the crisis period, is a clear indication of very low-income elasticity of demand of higher education. With a decline of household income the income elasticity of demand for education is expected to decline further. Moreover, the people of Singapore did (perhaps) assume that the crisis would be a short-lived phenomenon and thus had less unwillingness to fund current expenditure for education from past savings.

NUS real expenditure fluctuated during 1991-2000, most prominently in the latter period, which is the crisis period. Total real expenditure decreased in 1998 due to low growth rates of development expenditure; for 1997-1999 operating expenditure also declined but was counterbalanced by increased development expenditure. It is probable, in the face of lower economic growth during the crisis, that NUS budgetary expenditure may have grown less. In other words, the trend indicates an effect of the crisis on development expenditure first and on operational expenditure later. During the impending crisis in 1997, research funding was expected to be curtailed as a measure of cost control, but it was not universally adopted, as seen from the acceptance of many funding proposals, so as not to disrupt the research tradition to keep NUS at the forefront. It is apparent that the effect of the crisis on higher education in Singapore was limited and NUS had not faced any serious problems during the crisis.

The Singapore Institute of Management is typical of private-sector offerings to students not venturing overseas during the crisis. Enrolment at SIM had indeed increased for undergraduate degree programmes during 1998-1999, but this could be part of a normal growth trend as well (*Table 10*). Although there is an overall increase in enrolment in SIM, one can notice that this increase is primarily due to the fast growth of enrolment in the open university programme, which accounted for 69 per cent of the increase in enrolment between 1997 and 1999. More significantly, enrolment in various programmes declined during the same period. For example, enrolment in the doctoral programme declined by 42 per cent, master's programme by 23 per cent, graduate diploma programme by 10 per cent, etc.

Table 10. Enrolment in qualification-based programmes, Singapore Institute of Management, 1994-1999

Programme	1994	1995	1996	1997	1998	1999
Doctoral	47	55	40	38	28	22
Master's	892	798	920	1,006	909	776
Bachelor's	2,862	3,437	3,630	4,166	5,108	5,367
Open University degree	849	1,850	2,819	3 721	4,211	5,007
Graduate diploma	865	839	671	967	1,055	870
Diploma	2,333	2,228	2,243	2,250	2,203	1,919
Certificate	589	622	654	709	686	748
Total	8,437	9,829	11,171	12,857	14,200	14,709

Source: SIM, Annual Report, various issues.

In hindsight and on anecdotal evidence, public-sponsored higher education programmes in Singapore were not significantly affected by the economic crisis. The process of reforms, innovations and structural changes in tertiary programmes had begun in the early 1990s when postgraduate education was mooted, and speeded up during the latter 1990s, which happened to coincide with the crisis. However, the crisis may have telescoped future problems that needed to be faced had NUS (and other universities) been unprepared and had not taken speedy measures. Misgivings have arisen from the speed of reforms of structures and the architecture of NUS programmes, due to the top-down planning approach so characteristic of the government. There is acquiescence to these measures, enabling the NUS to make fundamental changes in its quest for excellence in teaching and research. It is also contended that the government apparatus might have reacted speedily had the crisis been prolonged, instead of being short-lived.

Conclusion

The impact of the economic crisis on higher education was minimized in Singapore, primarily due to the following positive and conducive environment enjoyed by the education system in the country. In Singapore, educational policy has ever been in a flux, in periodic terms. Every decade or so, educational policy seems to address new issues and developments in workforce training for the changing economy. Earlier years witnessed a plethora of measures to increase vocational skills through streaming at Primary 3 and 6: academic, technical and vocational streams were identified and directed to the next levels appropriate to students' aptitudes and examination results. By the 1990s, streaming practices were less emphasized and O or N levels became the qualifying norm. Technical education has become an important goal at the polytechnics and the ITE; there are provisions now for late developers to enter the universities from any part of the talent flowchart, so as to avoid wastage and the need to develop critical skills. Even within the universities, and polytechnics, multi- and generic-skills emphases are the norm. The practice of periodic review in educational policy in Singapore comes from a basic premise that government is responsible for workforce planning, and hence it is paternalistic in its objectives. The objectives are economic betterment, full employment and better resource allocation and utilization. Thus, the government's role in higher education through its funding practices must be seen as deliberate workforce planning through an enlightened educational policy. Perhaps, the laissez-faire system may no longer apply in the small, open-economy situation of the island-state of Singapore.

Crisis or otherwise, the implications for policy and planning in the higher education sector, *inter alia* the school system, are clear. For developing countries, there is a continuous need to reform policies to respond to crises that may usher in new economic development paradigms. Governments must be prepared to implement educational policies to meet the economy's needs much earlier than anticipated events. For this to happen, stability in government, policy initiatives, and effective governance are the axiomatic requirements, all of which call for a sense of discipline and responsibility.

It is generally agreed that methodological issues preclude quantification of factors that may isolate the crisis effect from the general trends in reforms and enrolment. Response to the crisis may have been only partial, but this cannot be decomposed except through the econometric approach adopted above. It is clear that investment in education is the best bet to counter economic crisis and unemployment, as seen in the Singapore case. Two problems that must be eventually faced or addressed by Singapore are: (i) the widening of income gaps arising from higher education demand, in that the 'superstar' effect cannot be expected to fill the supply gap rapidly (as in the USA); (ii) the manpower planning approach, catering to the substitution effect, is the key to flexibility to meet market demand.

In conclusion, at the Policy Forum, Malaysia's Director General of Education, Tan Sri Dr Johari Mat, viewed the economic crisis as an opportunity for new directives for higher education development. In his view, which the authors share, four main developments may be visualized:

(a) corporate restructuring through mergers, downsizing and governance;

(b) address clients' market demands, through redesigning of curricula, pedagogic shifts, and to meet specific industry needs;

(c) indigenization of university programmes through upgrading of academic programmes, sharing of services and management activities, and less reliance on overseas institutions for university education;

(d) financial autonomy and self-reliance of universities to wean universities' dependence on government finance through marketable academic output, product and self-reliance on resources.

These may happen through government directives as well as with national labour planning strategies, incorporating cost-effective public expenditure on the social sector, including higher education. These very sentiments seem to underlie the Singapore case, and it has been happening throughout the 1990s, camouflaging the recent economic crisis effects.

Figure 1. Trend of enrolment at NUS, 1991-1999

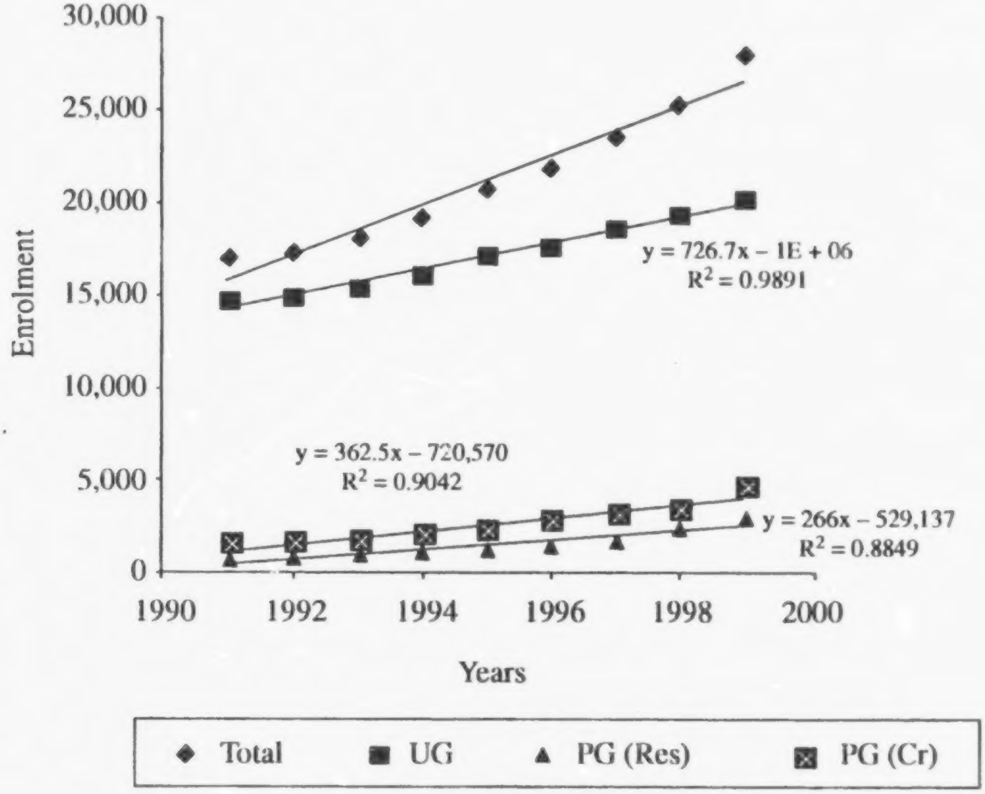
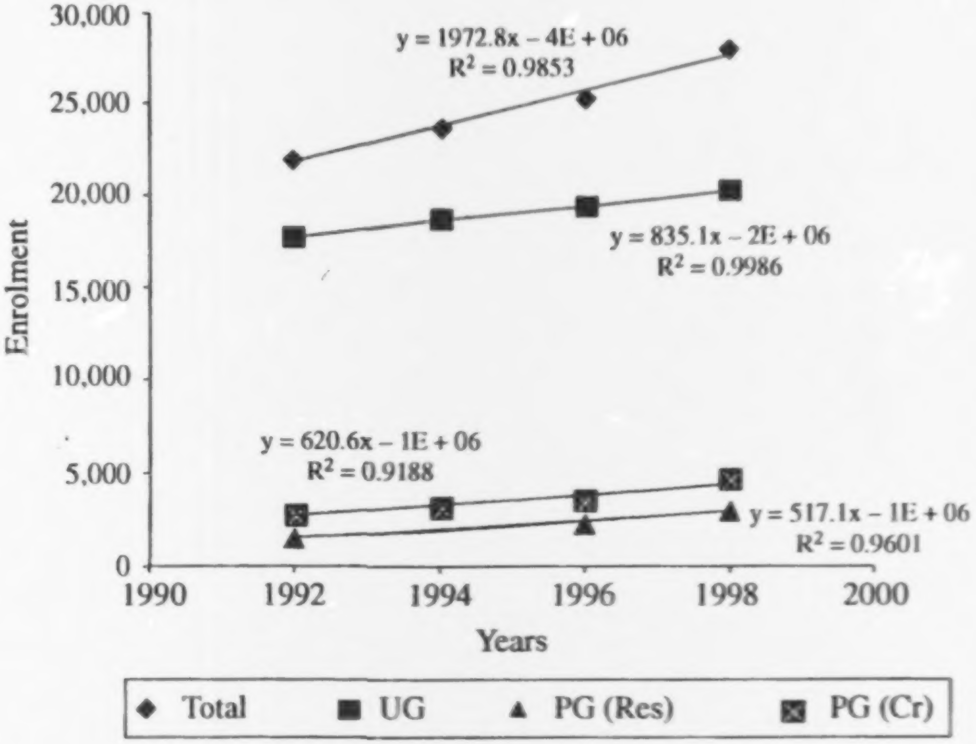


Figure 2. Trend of enrolment at NUS, 1996-1999



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VIII. IMPACT OF THE ECONOMIC CRISIS ON HIGHER EDUCATION IN THAILAND

by N.V. Varghese

1. Introduction

Thailand is among the high-performing economies of Asia (World Bank, 1993).The economy registered a consistently high rate of growth, averaging above 7 per cent, in the three decades preceding the crisis in 1997. Equally important is the fact that the rate of growth of the economy surpassed that of the population and hence the GDP per capita grew at an average annual rate of 4.4 per cent during the 1970-1995 period (World Bank, 2000). In fact the GDP per capita trebled over the past 30 years (Ablet and Slengesol, 2000).

Exports and inflow of foreign capital played a crucial role in the progress of the Thai economy. The major export item of the traditional Thai economy was rice. Over a period of time manufacturing goods became a major source of export earning of the economy. The import substitution policies of the government in the 1970s and its export promotion policies in the 1980s greatly contributed to the economy's faster pace of progress.

Economic growth in Thailand, as in other high-performing Asian countries, was accompanied by substantial reduction in poverty. The sustained high increase in per capita income is one important indicator of this trend. The percentage of population below the poverty line declined from 59 per cent in 1962 to 26 per cent in 1986, at a time that life expectancy increased from 52 to 68 years. The fast growing and crisis-free economy contributed to the well-being of all its citizens. The onset of the crisis changed the situation dramatically.

This paper is an attempt to analyze the changes in policy and practices in education during the crisis period.

The paper is organized as follows. The next section discusses the link between education and economic growth in the Thai economy. *Section 3* concerns the economic crisis. *Section 4* discusses the impact of the crisis on education at the macro level. *Section 5* deals with changes at the institutional level. And the final section draws some conclusions from the analysis.

2. Education and economic growth

Education played an important role in the growth of Thailand's economy. Adult literacy primary education contributed to the improvement in productivity of the rural agricultural sector. The export-oriented manufacturing sector was dominated by secondary-school graduates and higher education played an important role in providing competent bureaucracy and policy analysis. In fact, primary education was the largest single contributor to the predicted growth rates of the economy; primary school enrolments accounted for 87 per cent of the predicted growth of the economy (World Bank, 1993).

Table 1. Gross enrolment ratios by level (%)

Level 1992-1997		
Primary	100.1	105.8
Lower secondary	59.3	91.7
Upper secondary	20.1	36.2
Higher education	11.3	20.6

Source: Kakwani and Pothong (1999).

The country has made fast progress in education in the past decade. Since the primary level of education is almost universal in

Thailand, the progress made needs to be assessed in terms of enrolments at other levels of education. In the 1990s, the country made fastest progress at all levels of post-primary education. The GER at the higher education and upper-secondary levels increased by 1.8 times and that that at the lower-secondary level by 1.5 times. This progress was made during a period of five years (*Table 1*).

The impetus for the growth and expansion of the education sector came from different sources. While public policy provided the conducive environment and financial support, the relative equality in the distribution of income promoted the household demand for education. In 1997 average household expenditure on education was as follows: 446 bahts at the primary level, 930 bahts at the lower-secondary level, 1,164 bahts at the upper-secondary level and 2,070 bahts at the higher education level. Household expenditure at the lower-secondary level (930 bahts) was almost equivalent to the official poverty-line income in Thailand (Kakwani and Pothong, 1999). The per-student household expenditure almost doubled when the child transited from primary to secondary and further to higher education. The household expenditure pattern and high enrolment ratios at the secondary and higher education levels reveal the priority placed by the families on educating their children. This household commitment was evident even during the crisis period; when family incomes declined, Thai parents still tried to keep their children in school or in college.

The Thailand experience once again reinforces the argument that it is not the overall level of public expenditure, but the priority accorded by public policy that helped the country to achieve faster growth and expansion of education. Public expenditure on education as a share of GNP in the 1960s was around 2.3 per cent, which was not very high; even in the 1990s this share was comparable with other developing countries. What made the difference was the share of GDP in the educational budget allocated to primary education. For example, in 1985 Thailand, like other high-performing countries, invested around 2.6 per cent of GNP in primary education, accounting for 81.3 per cent of the budget allocated to education (World Bank, 1999). This was essentially due to the policy followed by the government, to provide basic education to all as the primary task of the public authorities.

The greater income equality led to increased demand for school education in Thailand. Growth of the economy was accompanied by increasing household incomes for the vast majority of the population. The employment opportunities further increased the demand for education, even by those who were poor. More importantly, the encouragement by the government, both in policy and in allocations, improved the access conditions and enrolments. The expansion of education at the lower level increased demand for tertiary levels of education. However, the private sector played an important role in facilitating provision for higher education in the country. The government encouraged private-sector involvement in higher education.

As a consequence of the public intervention in education, the system expanded and this is reflected in terms of literacy rates and enrolment ratios. The country has achieved near universal adult literacy rates and enrolment ratios at primary levels. Gross enrolment ratios at the secondary level too are very high. By the close of the century Thailand had an enrolment ratio of 72 per cent at the lower-secondary level and around 50 per cent at the senior-secondary level (ONEC, 1998). Declining demographic trends have recently started affecting primary-level enrolment. Consequently, while the system expands at the secondary and higher education levels, the number of primary-school children declined in the 1990s due to declining growth rates in the relevant age-group population.

Access to higher education has become much wider in Thailand. More than one fifth of the relevant age group enrols in institutions of higher education. More importantly, Thailand has a transition rate of around 90 per cent. Nearly 90 per cent of the graduates of the senior-secondary level sought admission and enrolled in higher education institutions of the country. Significantly, enrolments of girls surpass those of boys at all levels of education except primary (ONEC, 1998). To sum up, the economic growth and educational expansion were not only impressive, but were, in addition, shared by a majority of the population. This state of affairs could not continue during the crisis period starting from July 1997.

3. The economic crisis in Thailand

There are several factors attributed to the origin of the crisis, but most analysts agree on the contributory role played by the free flow of private foreign investment (Stiglitz, 1998; De Macedo and Chino, 2000). The government supported liberalization policies, especially in the 1980s and 1990s. The inflow of private capital to the country and to the regions suddenly experienced a spurt in the latter part of the 1980s and early 1990s. The high growth rate of the 1990s was partly due to the building boom, which was primarily through off-shore funding.

The crisis started when the baht lost its value against the dollar, in July 1997. It lost 15 per cent of its value against the dollar overnight, triggering a loss of investor confidence. This, accompanied by the recession in the Japanese economy and a slowing down of the European economy, contributed to further loss in confidence and thereby accentuation of the crisis. In other words, lack of demand for export goods from the region was one of the reasons for the crisis. The overnight decline in the value of the currency against the dollar activated this situation into a crisis period. By 1998, the loss in value of the Thai baht against the US dollar was around 36 per cent.

The initial manifestation of the crisis in the financial markets in the form of the currency's loss of value was soon followed by rapid contraction of overall economic activity, mainly through declines in consumer spending and long-term investments. This was further followed by declining levels of employment and decline in real earnings (World Bank, 1999)

The crisis led to a negative rate of growth of the economy (0-4 per cent) in 1997 and a further decline of the growth rate to – 8.0 per cent in 1998. Export income declined, share prices collapsed, property values crashed and unemployment increased. Unemployment increased from 1.1 per cent in 1996 to 4.4 per cent in 1998. The sectors which registered heaviest employment losses were construction and manufacturing. In construction the loss in employment was the highest – around 34.6 per cent in 1998.

The crisis put fiscal pressure on the government. It increased budget deficits due to a declining tax base and increased spending on imports due to devaluation. The central government debt as share of GDP increased from 6.3 per cent in 1997 to 20.6 per cent in 1999 (ADB, 2000).

Private consumption contracted in Thailand in 1998. The wealth loss from the decline in the capital market and property values diminished middle and upper middle-class consumption. This trend continued until 1999 when consumption rose primarily due to government spending and then due to private spending (World Bank, 2000).

The decrease in real earnings was, perhaps, more severe than loss of employment, since loss of earnings affected all the employed, whereas job losses were confined to some only. In any case these impacts were severely felt in the urban areas; rural areas were relatively free from the negative effects of the crisis.

The crisis left two legacies – heavy debt and greater household insecurity. It has also left the region more vulnerable to external shocks. By the end of 1999 banks in Thailand were saddled with non-performing loans to the tune of 40 per cent. Moreover, government debts driven by financial bail-outs had already reached 35-50 per cent of the GDP in Thailand (World Bank, 1999).

4. Impact of the crisis on education: macro level

Thailand adopted a US$17.2 IMF-led assistance package. The adjustment plan meant cuts in fiscal spending, tightened monetary policy and increased value-added taxes from 7 to 10 per cent. At the macro level, government public expenditure was cut by 15 per cent in 1997; the national budget declined by 125,000 million bahts.

(a) Education budgets

There was a serious effort to maintain the expenditure on education at the same level, at least in nominal terms. With inflation rates high this meant reduced resource availability for the sector. But the government to a large extent succeeded in protecting the education budgets. School-level education was the primary beneficiary of this government effort.

The higher education budget declined from 36,726 million bahts in 1997 to 32,901 million bahts in 1998 – a reduction of – 3,825 million bahts, as shown in *Table 2*. It is important to note not only that the total budget for higher education declined, but also that it has not regained its pre-crisis status; the allocation in nominal terms in 2001 is around 13 per cent lower than it used to be in 1997. Given the rate of inflation, the amount actually available was still lower.

Table 2. Higher education budgets in Thailand (in billion bahts)

Year	Recurrent	Investment	Total
1997	20.7	16.0	36.7
1998	20.4	12.5	32.9
1999	21.6	12.7	34.3
2000	23.0	10.8	33.9
2001	24.1	8.2	32.3

Source: Ministry of University Affairs.

Furthermore, investment expenditure has fallen sharply. The investment budget declined from 16 million bahts in 1997 to 10.8 million bahts in 2001, accounting for a decline of one third of its share in 1997. On the other hand, the recurrent budget marginally increased during the same period. This was a common trend, seen in other crisis-affected countries too (Varghese, 2001). Consequently, work on new and existing projects, investment in equipment and building, and employment of new staff and faculty in the universities were also constrained.

Government policies with respect to education were twofold: immediate and long term. The immediate response was in terms of introducing student loans on a wider scale. The government also supported the private sector, professional organizations, and local administrative bodies. The long-term policy measures involved efficiency in allocation and utilization of budgets so that quantitative expansion could be attained and maintained even with reduced budgets. The government decided to protect especially operational budgets for teacher training, instructional materials and foreign languages.

(b) Staff recruitment

Reduction in staff recruitment and decentralization were other measures considered to combat the crisis. As a first step the government strictly controlled recruitment of primary-school teachers in 1998, developing a plan to eventually shift primary and secondary-school teachers from the central civil service framework to the local government framework, with university teachers as employees of the universities. It is expected that the rationalization procedure will also save expenditure on at least 25 per cent of the staff employed in various administrative offices, especially in the Bangkok office.

In many cases a freeze on new recruitment was enforced. In other words, the staff already in the system was maintained and there were no retrenchment policies. However, a policy of downsizing was enforced and this was mainly through freezing of recruitment of those who had retired. This affected the employment prospects of those seeking employment, but did not affect those who were already employed.

(c) Decentralization and institutional autonomy

Another important feature of developments during the crisis period was the bail-out packages provided by the World Bank and the Asian Development Bank. These insisted on privatization of university services, more decentralization of the decision-making processes in education, and institutional autonomy to universities and other institutions of higher education.

The National Education Commission document underlined these changes: "In order to meet the challenges facing the nation in recovering its growth rate, the universities must become efficient, cost-effective, high-quality institutions, which have the flexibility to adjust to changing technology and labour market needs. To achieve this transition, the universities must pursue autonomy in management, become more self-sufficient financially, raise the quality of teaching staff, and align enrolments more closely to the needs of high technology" (NEC, p.148).

The university reform has started in Thailand. Universities have become autonomous (Achava-Amrung, 2001). According to the plan, the government would delegate to all higher education institutions the authority and responsibility to manage the entire non-salary component of the current (operational) budget. All universities would be made fully autonomous by the year 2000.

University autonomy in the context of Thailand means that the faculty and staff will no longer be civil servants. It is expected that the autonomous universities will be in a position to recruit their own staff, fixing salaries according to their competitiveness and quality. In a sense the crisis necessitated reforms in higher education in Thailand; this may be similar to what is now being practised in the private universities. "The financial autonomy and public accountability that this reform will bring is a major step toward meeting the IMF conditions" (Atagi, 1998, p. 9).

To reduce the financial burden the government is also intending to develop productive partnership with the private sector through resource mobilization for the sector and protection and promotion of private institutions. The scope of the Human Resource Development

Fund, established in 1995, was enlarged to provide liberal loans for the establishment of private education institutions outside Bangkok.

(d) Change in admission policies

The Ministry of University Affairs (MUA) has changed the admission policies which were in place from 1965 in Thailand. According to the new criteria the scores in secondary school will get 10 points, scores in main subjects will get 90 points and in addition the students must pass an interview. To facilitate the university entrance system, MUA is establishing a central testing Bureau.

(e) Enrolment in higher education

Did the crisis affect the trends in enrolment? This is an important factor in assessing the impact of the crisis on the higher education system. In the academic year 1998 the number of students tended to decrease due to the impact of the economic crisis. The number of students applying for places declined in 1998 by 30-60 per cent. The worst hit were the private vocational colleges which could meet only 33 per cent of their enrolment targets. In addition, many children dropped out of the secondary schools and colleges to work and help their families to survive the crisis. The 1 billion baht loan from ADB would be used to provide grants to the drop-out children nationwide (ONEC, 1998).

Enrolment in higher education increased during this period. Total enrolment at undergraduate level increased from 702,000 to 772,000 between 1997 and 2001 (*Table 3*). But enrolment gain in the private sector was only 7.6 per cent of its enrolment in 1997. The corresponding gain by the public university was 22.7 per cent, and 6 per cent by the Open University system. In other words, the major share of the total increase in enrolment during the crisis period was shared by the public universities.

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There is every reason to believe that there was private/public substitution in higher education in Thailand. During periods of crisis students could not afford the cost of continuing education in the private sector, which offers full-priced services. Hence households withdrew children from private institutions to public institutions which were subsidized. The Royal Thai Government realized that drop-out was increasing and extended student support systems to keep them in the universities. This has helped to arrest drop-out.

The Government of Thailand had cancelled fellowships (Atagi, 1998) under the overseas study programme. As a result, many who were studying abroad returned home and enrolled in the domestic universities. This was another reason for increased enrolment in the universities. An additional factor positively contributing to enhanced enrolment was that subsidies were to be given to the parents to retain children in schools and colleges. The UNICEF analysis and recommendations too point to this factor. It notes that "the overall message is that Scholarships for lower secondary children and loans for secondary and tertiary students should be increased" (Mehrotra, 1998, p.14). This was part of the package to bail out the country from the crisis. The Thai Government implemented it, leading to expansion of loan facilities to students.

Table 3. Enrolment at undergraduate level (in thousands)

Year	Public	Open	Private
1997	176.7	507.4	17.9
1998	195.4	538.9	18.0
1999	207.1	530.3	15.9
2000	216.8	537.6	19.1

Source: Ministry of University Affairs.

5. Responses at the institutional level

How did institutions respond to the crisis and to the public policy formulated by the national governments? A case study from Chiang Mai University indicates the trends in the change at institutional level during the crisis period.

(a) University budgets

A case study of Chiang Mai University indicates the changes at the institutional level. Budget allocations to Chiang Mai University declined during the crisis period. There was a decrease of around 206.4 million bahts between the budgets of 1998 and 1999 (*Table 4*). However, this decrease was mainly due to the decline in the public sources of funding. Between the years 1999 and 2000 the total budget rose primarily due to the increase in income from private sources, as can be seen from the table. The income from private sources increased by approximately 4.5 times between 1997 and 1999. The university introduced various types of courses which were market friendly. These courses attracted a larger number of students, contributing to enhanced enrolment and increased income levels for the university.

Table 4. Budget allocations in Chiang Mai University (in million bahts)

Year	Government	Other sources	Total
1997	2,628.4	243.1	2,871.5
1998	2,410.3	254.8	2,665.1
1999	2,461.1	1,091.6	3,552.7

Source: Nikimgratana and Rujiwetpongstorn (2000).

(b) Enrolment

Student enrolment showed a steady increase in the university during the crisis period (*Table 5*). In fact the increase was marginal in 1998 and was substantial in 1999 and maximum increase took place in 2000. The pattern of increase in enrolment indicates the nature of changes taking place at the institutional level. Initial response of the household was to maintain the education of its children. However, many households could not continue in this and many children dropped out from university in the initial years of the crisis. Then the government came up with budget support to the universities as well as schemes for student support. The student loan scheme was not only established, but also expanded its scope. This helped the students to stay at the universities.

Another factor contributing to increased enrolment in the university is that of unemployment due to the crisis. The unemployment among secondary-school graduates contributed to increased enrolment at least in two ways. Firstly, due to unemployment the opportunity cost of continuing in the university declined. Second, the student support schemes introduced by the government provided monetary incentives for the youth to join universities. Joining a university improved the chances of getting a student loan and, if possible, some stipend or scholarship. During a period of unemployment or uncertain employment these were positive incentives to be taken advantage of by the prospective students.

The Chiang Mai University introduced many market-friendly courses and income-generating activities. The UNISERV centre was essentially facilitating these efforts. As a result of this, one could notice good demand for some of the new courses. It became clear to many workers that their survival in the labour market during the crisis period demanded upgrading of their skills. The courses offered by the university helped this process. A close scrutiny of the enrolment suggests that the effect of the return of overseas students was not a major factor in the increased enrolment at the university. This may be partly due to the fact that this university is located far away from Bangkok.

Table 5. Enrolment and teaching staff in Chiang Mai University

Year	Enrolment (000s)	Lecturers
1997	18.9	1,926
1998	19.9	1,977
1999	21.6	2,070
2000	27.1	2,003

Source: Nikimgratana and Rajwetpongporn (2000).

(c) Staff changes

While enrolment increased, staff numbers did not. In fact the number of lecturers declined in the university during the crisis period. For example, between 1999 and 2000 the number of lecturers declined by 67 (Table 5). The total picture in staff reduction is given in Table 6. Two decisions taken by the government affected the staff position in the university. Firstly, the government, as a general principle, proposed in 1998 that the retiring staff would not be replaced. Second, in 1999 the government formulated an early retirement policy for the civil servants including the university staff.

In Chiang Mai University the government ordered cancellation of 555 (academic and administrative) positions of the retiring staff in 1998. Between 1996 and 1997 the university staff was reduced by 706 and one can see from Table 6 that staff reduction continued to increase in the succeeding years. The staff reduction peaked in 1999, when 366 staff members were lost. The increase in enrolment and decrease in staff, especially teaching staff, reduced the student/staff ratio.

Table 6. Total staff reduction in Chiang Mai University

Year	Staff reduction
1996	72
1997	118
1998	150
1999	366

Source: *Nikimgratana and Rujiwetpongstorn (2000).*

Now the university is moving towards autonomy and it is expected that many new programmes and income-generating activities will be initiated by it.

6. Concluding observations

The study of the impact of the crisis on higher education in Thailand indicates very interesting trends. There was a serious and concerted effort to protect investments in education by the government and education of their children by the families. Consequently, even when there was a cut in the national budgets, the education budgets were relatively free from the budgetary cuts. This policy protected the school education budgets. However, higher education budgets were affected and there was a decline in the higher education budgets in both nominal and real terms.

The budget cuts were more visible in the investment components than in the recurrent components. Hence the buildings, equipment, libraries and other facilities were affected. There was a freeze on the recruitment of staff. In other words, the crisis has mainly affected components related to quality of education and future growth potentials of the system. The prime focus of the crisis strategy seems to be maintaining the system at any cost, even at the expense of quality.

The households, on the other hand, tried to protect the education budgets. In many instances, spending on luxury items and durable goods were postponed to meet the educational demands of their children. This trend was common at all levels of education. The student support systems initiated during the crisis period, especially the loan scholarships, indeed complemented the family efforts to maintain their children in the schools and universities. In fact some of these policies acted as incentives to attract more students to universities.

It seems that substitution between private and public universities has taken place. When family incomes declined during the crisis period, some parents withdrew children from private and into public institutions, which are subsidized. However, governmental policy of extending loan scholarship facilities even to students pursuing their studies in private institutions has helped to reduce such substitution possibilities.

The period provided a good opportunity to initiate reforms in the universities. Universities have become more autonomous in their functioning and have started introducing new courses and mobilizing resources. This is a positive trend.

Our analysis, both at the national level and at the institutional levels, indicates that enrolments continued to increase during the crisis period. The incentives provided by the government and the high rate of graduate unemployment provide partial explanations for this trend. Perhaps an equally important factor is the conviction of the family that there is no alternative to good education for the future of its children. Consequently families were willing to sacrifice anything for the education of their children. The analysis shows that if the government and families are committed to education, the potential damage of a crisis on education could be reduced substantially. This strong commitment is one of the important reasons for a reduced effect of the crisis in many countries, including Thailand.

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APPENDIX I

Programme

29 January 2001

8.30 – 9.00	**Registration of participants**
9.00 – 10.00	**Opening session** ***Welcoming remarks*** Mrs. Zurhenarthal, Department of Higher Education, Ministry of Education, Malaysia ***Introduction to the Policy Forum*** N.V. Varghese, IIEP, Paris ***Statement on behalf of the IIEP*** Gudmund Hernes, Director IIEP, Paris ***Statement on behalf of RIHED*** Vanchai Sirichana, Permanent Secretary for University Affairs, Thailand Chairperson, RIHED ***Opening remarks*** Tan Sri Johari Mat, Secretary General, Ministry of Education, Malaysia
10.00 – 10.30	*Tea/coffee break*
10.30 – 12.30	**Presentation of the theme paper** *Presentation*: N.V. Varghese, IIEP, Paris *Discussant:* Mona Dumlao-Valisno, Commission on Higher Education, Philippines *Chairperson:* Dato 'Asiah bt. Abu Samah, Chairperson, IIEP Governing Board
12.30 – 14.00	*Lunch break*

14.00 - 15.30	**Economic crisis and higher education in Malaysia** *Presentation:* Arif Hassan, International Islamic University of Malaysia Mohd. Saileh Bin Hj. Din, Universiti Utara Malaysia *Discussant:* Mansor Jusoh, Universiti Kebangssan Malaysia *Chairperson*: Mohd Zahedi bin Daud, Malaysia
15.30 - 15.45	*Tea/coffee break*
15.45 - 16.45	**Economic crisis and higher education in Singapore** *Presentation:* George Shantakumar, NUS, Singapore *Discussant:* N.V. Varghese, IIEP, Paris *Chairperson*: Padoongchart Suwanawongse, Director, SEAMEO RIHED, Thailand
20.30	**Dinner:** hosted by the Secretary General, MOE, Malaysia

30 January 2001

9.00 - 10.30	**Economic crisis and higher education in Korea** *Presentation*: Hyunsook Yu, Korean Educational Development Institute, Seoul *Discussant*: Hwanyoung Jang, Ministry of Education, Korea *Chairperson*: Zainai bin Mohamed, Malaysia
10.30 - 11.00	*Tea/coffee break*
11.00 - 12.30	**Economic crisis and higher education in Thailand** *Presentation:* Pornchulee Achava-Amrung, Chulalongkorn University, Thailand *Discussant*: Sumate Yamnoon, Ministry of University Affairs, Thailand *Chairperson*: Charas Suwanwela, Thailand

12.30 - 14.00	*Lunch break*
14.00 - 18.00	**Visit**

31 January 2001

9.00 - 10.30	**Economic crisis and higher education in Indonesia** *Presentation:* Agung Purwadi, Research Network Division, Research Centre of the Ministry of Education, Indonesia *Discussant* : Suprodijo Pusposutardjo, Ministry of Education, Indonesia *Chairperson*: Mochammad Anwar, Indonesia
10.30 - 10.45	*Tea/coffee break*
10.45 - 12.15	**Working group meetings on Policy Recommendations**
12.15 - 13.00	**Presentation of Policy Recommendations** *Chairperson:* Gudmund Hernes, Director, IIEP, Paris
13.00 - 14.15	*Lunch break*
14.15 - 15.00	**Closing session** *Report on the Policy Forum:* N.V. Varghese, IIEP, Paris *Concluding statement:* Padoongchart Suwanawongse, SEAMEO RIHED, Thailand *Concluding statement:* Gudmund Hernes, Director IIEP, Paris *Closing remarks:* Hassan bin Said, Director Department of Higher Education, Ministry of Education, Malaysia

APPENDIX 2

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The book

In recent decades East Asian countries sustained high growth rates with a more equitable distribution of income than in many other countries, and were relatively free from outside shocks and economic crisis. Expansion in formal sector employment, higher wages, improved household incomes and increased social demand for post-compulsory levels of education were all important features of development in this region.

The recent economic crisis altered this scenario and is markedly different from previous crises in other regions since it is not the public sector that is at the root of the problem. This crisis was created and accentuated mainly by the unrestricted and fluctuating flow of private capital.

The IIEP launched a regional project in the year 2000 to analyze the extent and nature of changes affecting the higher educational sector during the period of economic crisis in this region. Five countries representing high-performing Asian economies affected by the crisis were identified for case studies that analyzed macro-level policy changes and institutional level responses during the period.

The IIEP, in collaboration with RIHED, Bangkok and the Ministry of Education, Malaysia organized a Policy Forum in January 2001 to share the findings of the studies. The Policy Forum highlighted the magnitude of the effects of the crisis at the macro and institutional levels, to examine the nature of changes in the realm of higher education and to discuss policy implications from a regional perspective. The present volume is based on selected papers presented at the Policy Forum.

Impact of the economic crisis
on higher education
in East Asia:
Country experiences

The editor

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